PB82-140716

Warfarin and Its Sodium Salt (3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin) Pesticide Registration Standard

(U.S.) Environmental Protection Agency
Washington, DC

Aug 81

U.S. Department of Commerce
National Technical Information Service
NTIS

PB82-140716

United States
Environmental Protection
Agency

Office of
Pesticides and Toxic Substances
Washington DC 20460

August 1981

Pesticides

EPA

Warfarin and its Sodium Salt

(3-(alpha-Acetonylbenzyl) -4-hydroxycoumarin)

Pesticide Registration Standard

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA 22161

NOTICE

THIS DOCUMENT HAS BEEN REPRODUCED FROM THE BEST COPY FURNISHED US BY THE SPONSORING AGENCY. ALTHOUGH IT IS RECOGNIZED THAT CERTAIN PORTIONS ARE ILLEGIBLE, IT IS BEING RELEASED IN THE INTEREST OF MAKING AVAILABLE AS MUCH INFORMATION AS POSSIBLE.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	3. Recipient's Accession No. PB82 140716

4. Title and Subtitle

Pesticide Registration Standard for Warfarin and its Sodium Salt (3-(alpha-Acetonylbenzyl) -4-hydroxycoumarin)

5. Report Date August 1981

6. 355027

7. Author(s) U.S. EPA, Special Pesticide Review Division (SPRD) and Registration Division (RD)

8. Performing Organization Rept. No.

9. Performing Organization Name and Address

US Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.

(C)

(G)

12. Sponsoring Organization Name and Address

Same as #9

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This document contains information regarding reregistration of pesticide products containing Warfarin and its sodium salt, including how to register under a registration standard, regulatory position and rationale, and summaries of data requirements and data gaps. Also included is a bibliography containing citations of all studies reviewed by EPA in arriving at the positions and conclusions contained in the standard.

17. Document Analysis a. Descriptors

Registration Standard
Warfarin and its Sodium Salt

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement:	19. Security Class (This Report) Unclassified	21. No. of Pages 133
	20. Security Class (This Page)	22. Price

(See ANSI-Z39.18) See Instructions on Reverse

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

Warfarin and its Sodium Salt

[3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin]

PESTICIDE REGISTRATION STANDARD

WARFARIN AND ITS SODIUM SALT

Pesticide Registration Standard Support Team

Betty Peebles	Project Manager (SPRD)
Daniel Peacock	Biologist (RD)
Robert Zendzian, Ph.D.	Pharmacologist (HED)
Daniel Byrd, Ph.D.	Science Advisor (SPS, HED)
George Beusch	Supervisory Chemist (RCB, HED)
Arthur Schlosser	Chemist (EFB, HED)
Carol Natella	Wildlife Biologist (EEB, HED)
Carolyn Gregorio	Toxicologist (HED)
Douglas Chambers	Vertebrate Biologist (BFSD, ASIB)
Tom Miller	Section Head (SPRD)
Coleman Hall	Supervisory Chemist (CBIB, BFSD)

August 1981

Office of Pesticides and Toxic Substances

Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

TABLE OF CONTENTS

Chapter I - How to Register Under a Registration Standard

Organization of the Standard.....I-1
Purpose of the Standard.....I-1
Requirement to Re-register Under the Standard.....I-3
"Product Specific" Data and "Generic" Data.....I-3
Data Compensation Requirements under FIFRA 3(c)(1)(D).....I-5
Obtaining Data to fill "Data Gaps"; FIFRA 3(c)(2)(B).....I-6
Amendments to the Standard.....I-7

Chapter II - Regulatory Rationale

Introduction.....II-1
Description of Chemical.....II-2
Classification Under Minor Use.....II-2
Regulatory Position for Warfarin.....II-2
Regulatory Rationale.....II-3
Criteria for Registration Under the Standard.....II-4
Required Labeling.....II-6
Tolerance Reassessment.....II-7

Chapter III - Data Requirements

Introduction.....III-1
Tables.....III-2

Chapter IV - Product Chemistry

Chemical Identity.....IV-1
Manufacturing Process.....IV-1
Formation of Unintentional Ingredients.....IV-2
Percentages of Components in Warfarin Products.....IV-3
Product Analytical Methods and Data.....IV-3
Physical/Chemical Properties.....IV-4
Summary of Data Gaps.....IV-5

Chapter V - Environmental Fate

Use Profile.....V-1
Environmental Fate Profile.....V-2
Exposure Profile.....V-3

Chapter VI - Toxicology Chapter

Toxicology Profile.....VI-1
Technical and Manufacturing Products.....VI-1
End-Use-Products.....VI-5
Toxicity Categories.....VI-6
Human and Domestic Animal Hazard Assessment.....VI-6
Summary of Major Data Gaps.....VI-7

Chapter VII - Residue Chemistry.....VII-1

Chapter VIII - Ecological Effects

Ecological Effects Profile.....VIII-1
Hazard Assessment.....VIII-1
Summary of Major Data Gaps.....VIII-2

Chapter IX Efficacy

Efficacy Profile..IX-1
Factors Influencing Efficacy..............................IX-1
Use Sites...IX-2
Summary of Major Data Gaps................................IX-2

Chapter X - Bibliography

Content of Bibliography...................................X-1
Units of Entry..X-1
Identification of Entries.................................X-2
Form of the Entry...X-2

I. HOW TO REGISTER UNDER A REGISTRATION STANDARD

1. Organization of the Standard

This first chapter explains the purpose of a Registration Standard and summarizes the legal principles involved in registering or re-registering under a Standard. The second and third chapters set forth the requirements that must be met to obtain or retain registration for products covered by this particular Registration Standard. In the remaining chapters, the Agency reviews the available data by scientific discipline, discusses the Agency's concerns with the identified potential hazards, and logically develops the conditions and requirements that would reduce those hazards to acceptable levels.

2. Purpose of the Standard

Section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) provides that "no person in any State may distribute, sell, offer for sale, hold for sale, ship, deliver for shipment, or receive (and having so received) deliver or offer to deliver, to any person any pesticide which is not registered with the Administrator [of EPA]." To approve the registration of a pesticide, the Administrator must find, pursuant to Section 3(c)(5) that:

> "(A) its composition is such as to warrant the proposed claims for it;
> (B) its labeling and other material required to be submitted comply with the requirements of this Act;
> (C) it will perform its intended function without unreasonable adverse effects on the environment; and
> (D) when used in accordance with widespread and commonly recognized practice it will not generally cause unreasonable adverse effects on the environment."

In making these findings, the Agency reviews a wide range of data which registrants are required to submit, and assesses the risks and benefits associated with the use of the proposed pesticide. But the established approach to making these findings has been found to be defective on two counts:

First, EPA and its predecessor agency, the United States Department of Agriculture (USDA), routinely reviewed registration applications on a 'product by product' basis, evaluating each product-specific application somewhat independently. In the review of products containing similar components, there was little opportunity for a retrospective review of the full range of pertinent data available in Agency files and in the public literature. Thus the 'product by product' approach was often inefficient and sometimes resulted in inconsistent or incomplete regulatory judgments.

Second, over the years, as a result of inevitable and continuing advances in scientific knowledge, methodology, and policy, the data base for many pesticides came to be considered inadequate by current scientific and regulatory standards. Given the long history of pesticide regulation in several agencies, it is even likely that materials may have been lost from the data files. When EPA issued new requirements for registration in 1975 (40 CFR 162) and proposed new guidelines for hazard testing in 1978 (43 FR 29696, July 10, 1978 and 43 FR 37336, August 22, 1978), many products that had already been registered for years were being sold and used without the same assurances of human and environmental safety as was being required for new products. Because of this inconsistency, Congress directed EPA to re-register all previously registered products, so as to bring their registrations and their data bases into compliance with current requirements [See FIFRA Section 3(g)].

Facing the enormous job of re-reviewing and calling-in new data for the approximately 35,000 current registrations, and realizing the inefficiencies of the 'product by product' approach, the Agency decided that a new, more effective method of review was needed.

A new review procedure has been developed. Under it, EPA publishes documents called Registration Standards, each of which discusses a particular pesticide active ingredient. Each Registration Standard summarizes all the data available to the Agency on a particular active ingredient and its current uses, and sets forth the Agency's comprehensive position on the conditions and requirements for registration of all existing and future products which contain that active ingredient. These conditions and requirements, all of which must be met to obtain or retain full registration or re-registration under Section 3(c)(5) of FIFRA, include the submission of needed scientific data which the Agency does not now have, compliance with standards of toxicity, composition, labeling, and packaging, and satisfaction of the data compensation provisions of FIFRA Section 3(c)(1)(D).

The Standard will also serve as a tool for product classification. As part of the registration of a pesticide product, EPA may classify each product for "general use" or "restricted use" [FIFRA Section 3(d)]. A pesticide is classified for "restricted use" when some special regulatory restriction is needed to ensure against unreasonable adverse effects to man or the environment. Many such risks of unreasonable adverse effects can be lessened if expressly-designed label precautions are strictly followed. Thus the special regulatory restriction for a "restricted use" pesticide is usually a requirement that it be applied only by, or under the supervision of, an applicator who has been certified by the State or Federal government as being competent to use pesticides safely, responsibly, and in accordance with label directions. A restricted-use pesticide can have other regulatory restrictions [40 CFR 162.11(c)(5)] instead of, or in addition to, the certified applicator requirement. These other regulatory restrictions may include such actions as seasonal or regional limitations on use, or a requirement for the monitoring of residue levels after use. A pesticide classified for "general use," or not classified at all, is available for use by any individual who is in compliance with State or local regulations. The Registration Standard review compares information about potential adverse effects of specific uses of the pesticide with risk criteria listed in 40 CFR 162.11(c), and thereby determines whether a product needs to be classified for "restricted use." If the Standard does classify a pesticide for "restricted use," this determination is stated in the second chapter.

3. Requirement to Re-register Under the Standard

FIFRA Section 3(g), as amended in 1978, directs EPA to re-register all currently registered products as expeditiously as possible. Congress also agreed that re-registration should be accomplished by the use of Registration Standards.

Each registrant of a currently registered product to which this Standard applies, and who wishes to continue to sell or distribute his product in commerce, must apply for re-regisration. His application must contain proposed labeling that complies with this Standard.

EPA will issue a notice of intent to cancel the registration of any currently registered product to which this Standard applies if the registrant fails to comply with the procedures for re-registration set forth in the Guidance Package which accompanies this Standard.

4. "Product Specific" Data and "Generic" Data

In the course of developing this Standard, EPA has determined the types of data needed for evaluation of the properties and effects of products to which the Standard applies, in the disciplinary areas of Product Chemistry, Environmental Fate, Toxicology, Residue Chemistry, and Ecological Effects. These determinations are based primarily on the data Guidelines proposed in 1978 (43 FR 29696, July 10, 1978, and 43 FR 37336, August 22, 1978), as applied to the use patterns of the products to which this Standard applies. Where it appeared that data from a normally applicable Guidelines requirement was actually unnecessary to evaluate these products, the Standard indicates that the requirement has been waived. On the other hand, in some cases studies not required by the Guidelines may be needed because of the particular composition or use pattern of products the Standard covers; if so, the Standard explains the Agency's reasoning. Data guidelines have not yet been proposed for the Residue Chemistry discipline, but the requirements for such data have been in effect for some time and are, the Agency believes, relatively familiar to registrants. Data which we have found are needed to evaluate the registrability of some products covered by the Standard may not be needed for the evaluation of other products, depending upon the composition, formulation type, and intended uses of the product in question. The Standard states which data requirements apply to which product categories. (See the third chapter.) The various kinds of data normally required for registration of a pesticide product can be divided into two basic groups:

(A) data that is "product specific," i.e., data that relates only to the properties or effects of a product with a particular composition (or a group of products with closely similar composition); and

(B) "generic" data that pertains to the properties or effects of a particular ingredient, and thus is relevant to an evaluation of the risks and benefits of all products containing that ingredient (or all such products having a certain use pattern), regardless of any such product's unique composition.

The Agency requires certain "product specific" data for each product to characterize the product's particular composition and physical/chemical properties (Product Chemistry), and to characterize the product's acute toxicity (which is a function of its total composition). The applicant for registration or re-registration of any product, whether it is a manufacturing-use or end-use product, and without regard to its intended use pattern, must submit or cite enough of this kind of data to allow EPA to evaluate the product. For such purposes, "product specific" data on any product other than the applicant's is irrelevant, unless the other product is closely similar in composition to the applicant's. (Where it has been found practicable to group similar products for purposes of evaluating, with a single set of tests, all products in the group, the Standard so indicates.) "Product specific" data on the efficacy of particular end-use products is also required where the exact formulation may affect efficacy and where failure of efficacy could cause public health problems.

All other data needed to evaluate pesticide products concerns the properties or effects of a particular ingredient of products (normally a pesticidally active ingredient, but in some cases a pesticidally inactive, or "inert," ingredient). Some data in this "generic" category are required to evaluate the properties and effects of all products containing that ingredient [e.g., the acute LD-50 of the active ingredient in its technical or purer grade; see proposed 40 CFR 163.81-1(a), 43 FR 37355].

Other "generic" data are required to evaluate all products which both contain a particular ingredient and are intended for certain uses (see, e.g., proposed 40 CFR 163.82-1, 43 FR 37363, which requires subchronic oral testing of the active ingredient with respect to certain use patterns only). Where a particular data requirement is use-pattern dependent, it will apply to each end-use product which is to be labeled for that use pattern (except where such end-use product is formulated from a registered manufacturing-use product permitting such formulations) and to each manufacturing-use product with labeling that allows it to be used to make end-use products with that use pattern. Thus, for example, a subchronic oral dosing study is needed to evaluate the safety of any manufacturing-use product that legally could be used to make an end-use, food-crop pesticide. But if an end-use product's label specified it was for use only in ways that involved no food/feed exposure and no repeated human exposure, the subchronic oral dosing study would not be required to evaluate the product's safety; and if a manufacturing-use product's label states that the product is for use only in making end-use products not involving food/feed use or repeated human exposure, that subchronic oral study would not be relevant to the evaluation of the manufacturing-use product either.

If a registrant of a currently registered manufacturing-use or end-use product wishes to avoid the costs of data compensation [under FIFRA Section 3(c)(1)(D)] or data generation [under Section 3(c)(2)(B)] for "generic" data that is required only with respect to some use patterns, he may elect to delete those use patterns from his labeling at the time he re-registers his product. An applicant for registration of a new product under this Standard may similarly request approval for only certain use patterns.

5. Data Compensation Requirements under FIFRA 3(c)(1)(D)

Under FIFRA Section 3(c)(1)(D), an applicant for registration, re-registration, or amended registration must offer to pay compensation for certain existing data the Agency has used in developing the Registration Standard. The data for which compensation must be offered is all data which are described by all the following criteria:

(1) the data were first submitted to EPA (or to its predecessor agencies, USDA or FDA), on or after January 1, 1970;

(2) the data were submitted to EPA (or USDA or FDA) by some other applicant or registant in support of an application for an experimental use permit, an amendment adding a new use to a registration, or for re-registration, or to support or maintain in effect an existing registration;

(3) the data are relevant to the Agency's decision to register or re-register the applicant's product under the Registration Standard, taking into account the applicant's product's composition and intended use pattern(s);

(4) the data are determined by EPA to be valid and usable in reaching regulatory conclusions; and

(5) the data are not those for which the applicant has been exempted by FIFRA Section 3(c)(2)(D) from the duty to offer to pay compensation. (This exemption applies to the "generic" data concerning the safety of an active ingredient of the applicant's product, not to "product specific" data. The exemption is available only to applicants whose product is labeled for end-uses for which the active ingredient in question is present in the applicant's product because of his use of another registered product containing that active ingredient which he purchases from another producer.)

An applicant for reregistration of an already registered product under this Standard, or for registration of a new product under this Standard, accordingly must determine which of the data used by EPA in developing the Standard must be the subject of an offer to pay compensation, and must submit with his application the appropriate statements evidencing his compliance with FIFRA Section 3(c)(1)(D).

An applicant would never be required to offer to pay for "product specific" data submitted by another firm. In many, if not in most cases, data which are specific to another firm's product will not suffice to allow EPA to evaluate the applicant's product, that is, will not be useful to the Agency in determining whether the applicant's product is registrable. There may be cases, however, where because of close similarities between the composition of two or more products, another firm's data may suffice to allow EPA to evaluate some or all of the "product specific" aspects of the applicant's product. In such a case, the applicant may choose to cite that data instead of submitting data from tests on his own product, and if he chooses that option, he would have to comply with the offer-to-pay requirements of Section 3(C)(1)(D) for that data.

Each applicant for registration or re-registration of a manufacturing-use product, and each applicant for registration or re-registration of an end-use product, who is not exempted by FIFRA Section 3(c)(2)(D), must comply with the Section 3(c)(1)(D) requirements with respect to each item of "generic" data that relates to his product's intended uses.

A detailed description of the procedures an applicant must follow in applying for re-registration (or new registration) under this Standard is found in the Guidance Package for this Standard.

6. Obtaining Data to Fill "Data Gaps"; FIFRA 3(c)(2)(B)

Some of the kinds of data EPA needs for its evaluation of the properties and effects of products to which this Standard applies have never been submitted to the Agency (or, if submitted, have been found to have deficiencies rendering them inadequate for making registrability decisions) and have not been located in the published literature search that EPA conducted as part of preparing this Standard. Such instances of missing but required data are referred to in the Standard as "data gaps".

FIFRA Section 3(c)(2)(B), added to FIFRA by the Congress in 1978, authorizes EPA to require registrants to whom a data requirement applies to generate (or otherwise produce) data to fill such "gaps" and submit those data to EPA. EPA must allow a reasonably sufficient period for this to be accomplished. If a registrant fails to take appropriate and timely steps to fill the data gaps identified by a section 3(c)(2)(B) order, his product's registration may be suspended until the data are submitted. A mechanism is provided whereby two or more registrants may agree to share in the costs of producing data for which they are both responsible.

The Standard lists, in its third chapter, the "generic" data gaps and notes the classes of products to which these data gaps pertain. The Standard also points out that to be registrable under the Standard, a product must be supported by certain required "product specific" data. In some cases, the Agency may possess sufficient "product specific" data on one currently registered product, but may lack such data on another. Only those Standards which apply to a very small number of currently registered products will attempt to state definitively the "product specific" data gaps on a 'product by product' basis. (Although the Standard will in some cases note which data that EPA does possess would suffice to satisfy certain "product specific" data requirements for a category of products with closely similar composition characteristics.)

As part of the process of re-registering currently registered products, EPA will issue Section 3(c)(2)(B) directives requiring the registrants to take appropriate steps to fill all identified data gaps -- whether that data in question is "product specific" or "generic" -- in accordance with a schedule.

Persons who wish to obtain registrations for new products under this Standard will be required to submit (or cite) sufficient "product specific" data before their applications are approved. Upon registration, they will be required under Section 3(c)(2)(B) to take appropriate steps to submit data needed to fill "generic" data gaps. (We expect they will respond to this requirement by entering into cost-sharing agreements with other registrants who previously have been told they must furnish the data.) The Guidance Package for this Standard details the steps that must be taken by registrants to comply with Section 3(c)(2)(B).

7. Amendments to the Standard

Applications for registration which propose uses or formulations that are not presently covered by the Standard, or which present product compositions, product chemistry data, hazard data, toxicity levels, or labeling that do not meet the requirements of the Standard, will automatically be considered by the Agency to be requests for amendments to the Standard. In response to such applications, the Agency may request additional data to support the proposed amendment to the Standard, or may deny the application for registration on the grounds that the proposed product would cause unreasonable adverse effects to the environment. In the former case, when additional data have been satisfactorily supplied, and providing that the data do not indicate the potential for unreasonable adverse effects, the Agency will then amend the Standard to cover the new registration.

Each Registration Standard is based upon all data and information available to the Agency's reviewers on a particular date prior to the publication date. This "cut-off" date is stated at the beginning of the second chapter. Any subsequent data submissions and any approved amendments will be incorporated into the Registration Standard by means of addenda, which are available for inspection at EPA in Washington, D.C., or copies of which may be requested from the Agency. When all the present "data gaps" have been filled and the submitted data have been reviewed, the Agency will revise the Registration Standard. Thereafter, when the Agency determines that the internally maintained addenda have significantly altered the conditions for registration under the Standard, the document will be updated and re-issued.

While the Registration Standard discusses only the uses and hazards of products containing the designated active ingredient(s), the Agency is also concerned with the potential hazards of some inert ingredients and impurities. Independent of the development of any one Standard, the Agency has initiated the evaluation of some inert pesticide ingredients. Where the Agency has identified inert ingredients of concern in a specific product to which the Standard applies, these ingredients will be pointed out in the Guidance Package.

II. REGULATORY POSITION ON WARFARIN

1. Introduction

This chapter presents the Agency's regulatory position and rationale based on an evaluation of all federally registered products containing warfarin or its sodium salt as the sole active ingredient. Also included is a discussion of warfarin products containing sulfaquinoxaline[a/] as an added ingredient.

Among the considerations incorporated into the position is an analysis of the registrability of products containing warfarin based upon the risk criteria found in section 162.11(a) of Title 40 of the U.S. code of Federal Regulations. The Agency's determination in this regard is presented below followed by the rationale for this decision.

In addition, this chapter contains a discussion of warfarin's classification as a minor use chemical, the criteria by which applicants for registration of warfarin products will be approved, including discussion of specific labeling considerations, a tolerance reassessment and the acceptable limits for product composition. Thus, this chapter contains requirements for continued registration of warfarin products and new product registrations that are covered by the Standard. Discussions of the data upon which this regulatory position is based are presented in each of the disciplinary chapters (IV through IX). Data requirements are presented in Chapter III.

[a/] Sulfaquinoxaline is added to some warfarin-containing products as an active ingredient intended to reduce the internal buildup of vitamin K in the intestine by killing vitamin K producing bacteria. Vitamin K is needed for normal blood clotting in animals. Based upon a study done by Palmateer (1979, GS0011-108) this ingredient is now considered to have either a negative or no effect upon warfarin's efficacy. Therefore, the Agency considers sulfaquinoxaline to be inert with respect to rodenticidal activity. Registrants desiring to retain this chemical as an active ingredient must submit data demonstrating its efficacy as a rodenticide and basic acute toxicity data. Registrants desiring to retain sulfaquinoxaline as an inert will need to submit additional acute oral toxicity data. (See data requirement tables in Chapter III).

2. Description of Chemical

Warfarin, 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin is a rodenticide which is also known by the names coumaphene, Dethmor,^{R} Kypfarin,^{R} and Rax.^{R} The Shaughnessy number for warfarin is 086002, the number for its sodium salt is 086003, and the Chemical Abstracts Registry (CAS) number for warfarin is CAS 81-81-2.

3. Classification Under Minor Use

Low market volume chemicals (usually those with less than 250,000 lbs. active ingredient produced per year) from which exposure is expected to be minimal based on use pattern, available data, and other considerations may be classified by EPA as having minor use status.

Estimates made by EPA staff indicate that production of warfarin during the most recent five-year period was less than 250,000 pounds of active ingredient per year in all products. These estimates are based on International Trade Commission data, Department of Commerce data and other published sources, as well as contacts with industry representatives familiar with this market. In addition, because of warfarin's use patterns and the concentration of active ingredient in its products, the Agency expects warfarin exposure to humans to be low.

Accordingly, warfarin is classified as a minor use chemical. As a result, many data requirements, particularly in the areas of toxicology, ecological effects, environmental fate and product chemistry have been waived in this Standard.

4. Regulatory Position for Warfarin

Warfarin as described in this Standard may be registered for sale, distribution, reformulation and use in the United States. The Agency has considered the limited amount of scientific data obtained from the open literature as of August 22, 1979, and the data submitted by the registrants up through the time of publication of this Standard. In view of this information, the Agency concludes that properly labelled warfarin products would not cause an unreasonable adverse effect to man or to the environment, and, therefore, none of the risk criteria found in section 162.11(a) of Title 40 of the U.S. Code of Federal Regulations have been met or exceeded by warfarin or its sodium salt.

Warfarin products currently registered may be reregistered under this Standard subject to the conditions imposed by this Standard. New products may be registered under this Standard and are subject to the same requirements.

5. Regulatory Rationale

While there are some data on product chemistry, toxicology, efficacy, and ecological effects, some of the studies do not meet current guidelines requirements. Therefore, there is still a need for additional information in various disciplines to support the registration of products containing warfarin and its sodium salt. An acute inhalation toxicity study will be required. A large base of information exists on warfarin as a result of its clinical use as an anticoagulant drug; therefore, other toxicity testing will not be required (see the rationale in Chapter VI for more information on this issue). Environmental chemistry data are not required because of warfarin's use pattern, limited poundage available, and the small chance of residues being found in soil or water. Product chemistry data are required describing the manufacturing process and the impurities that may be formed during manufacture and the physical and chemical properties of the technical compound. Ecological effects data will also be required. Since Federally registered warfarin and its sodium salt products have no food or feed uses, there are no residue chemistry data requirements.

Despite the lack of data, the Agency has concluded that it should continue the registration of this chemical for the following reasons:

- No substantial adverse effects data of regulatory concern have been uncovered in the review of the studies which have been received, given expected exposure levels, and it has been determined that the benefits demonstrated by the sale of these products outweigh the known risks, when label directions are followed.

- Data on warfarin's use as an anticoagulant drug indicate that it is a weak teratogen. Therefore, the Agency will require a teratogenicity label warning on warfarin's manufacturing use products, (for additional information, see the FDA labelling in Chapter VI of this Standard).

- In accordance with FIFRA, the Agency's policy is not to cancel routinely the registration of products merely because we lack data, or to withhold registration merely for the lack of data. (See Sections 3(c)(2)(B) and 3(c)(7) of FIFRA.) Rather, publication of the Standard provides a mechanism for identifying data needs, and registration under the Standard allows for upgrading of labels once the required data are generated. When these data are received, they will be reviewed by the Agency and the registrability of the chemical will be reassessed.

- Warfarin-containing products are considered to be minor-use pesticides due to their use pattern that leads only to low exposure with end-use products, and because of their low annual production volume.

Based on the available information, the Agency has declared sulfaquinoxaline to be inert with respect to rodenticidal activity. Registrants wishing to retain this chemical as an active ingredient will have to submit additional data proving the efficacy of this ingredient in warfarin formulations, as well as submitting basic acute toxicity data. Registrants wishing to retain this ingredient as an inert will need to submit additional acute oral toxicity data on sulfaquinoxaline.

6. Criteria for Registration Under the Standard

To be subject to this Standard, products must meet the following conditions:

- contain 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin or its sodium salt as the sole active ingredient[a/]
- bear required labeling, and
- conform to the product composition, acute toxicity limits, and use pattern requirements stated in this chapter.

In addition, applicants for registration or reregistration of warfarin products subject to this Standard must comply with all terms and conditions described in this Standard including commitment to fill data gaps according to the time schedule specified by the Agency and, when applicable, offer to pay compensation to the extent required by Sections 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act [FIFRA], as amended, 7 U.S.C. 136(c)(1)(D) and 136(c)(2)(D).

a. Acceptable Ranges and Limits

1) Manufacturing-use Warfarin

a) Product Composition Standard

In order to be covered under this Standard, technical warfarin, warfarin sodium salt, and their diluted products must comply with the following standards. All products must contain warfarin, 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin, or its sodium salt as the sole active ingredient (a.i.)[a/]. The Agency expects technical warfarin to be at least 98% a.i. Manufacturing-use products with any percentage of active ingredient with appropriate certification of limits are acceptable under this Standard. Should an applicant desire to register any products that depart from those covered by this Standard, that applicant should contact the Agency for specific directions on how to register those products.

b) Acute Toxicity Limits

The Agency will consider registration of manufacturing-use warfarin products in toxicity categories I, II, III, and IV based on results of testing for acute oral toxicity, acute dermal toxicity, acute inhalation toxicity, primary eye irritation, or primary dermal irritation.

c) Use Patterns

To be covered under this Standard manufacturing-use warfarin must be labelled to allow for formulation only into registered end-use rodenticides used in and around buildings, in transport vehicles, and closely related sites for the control of Norway and roof rats and house mice. "Transport vehicles" would be trucks, planes, and ships. "Closely related sites" would be dumps, sewers, river and pond banks, feedlots, rabbitry fur farms, and game bird operations.

2) End-Use Warfarin

a) Product Composition Standard

In order to be covered under this Standard, end-use products containing warfarin and its sodium salts must contain the following percentages of active ingredients: concentrates (warfarin sodium salt - 0.12% to 0.60% a.i.) for dilution into liquid baits, concentrates (warfarin - 0.3% to 2.0%) for dilution into dry baits; ready-to-use tracking powders 1.0%; and ready-to-use dry baits (warfarin - 0.02% to 0.06%).

b) Acute Toxicity Limit

The Agency will consider registration of any end-use warfarin (or sodium salt) products in toxicity categories II, III, and IV based upon testing for acute oral toxicity, acute dermal toxicity, acute inhalation toxicity, primary eye irritation, or primary dermal irritation. Due to the characteristics of warfarin (toxicity, palatability, concentration of active ingredient in formulated products) the Agency considers it unlikely that category I end-use products would be proposed for registration. Such products would require the submission of data to amend the standard. Further, such products would likely require restricted-use labelling for domestic sites.

c) Use Pattern

To be considered under this Standard, end-use products must bear directions for use against the Norway rat, roof rat, or house mouse at one or more of the following sites: in and around buildings and similar man-made structures, and in transport vehicles (trucks, planes and ships), or sites such as dumps, sewers, river and pond banks, feedlots, rabbitry fur farms, and game bird operations.

7. Required Labeling

All manufacturing-use and end-use warfarin products must bear appropriate labelling as specified in 40 CFR 162.10. The guidance package for this Standard contains specific information regarding label requirements. Once the Agency receives the data requested in the Standard, it will specify all necessary label statements that registrants will be asked to submit in accordance with the above regulations. Data now on hand indicate the need to include the following label statements on warfarin products (and their sodium salts).

a. Manufacturing-Use Products

1) Use Pattern Statements

All manufacturing-use warfarin products must list on the label the intended end-uses of formulated products produced from the manufacturing-use product. All warfarin manufacturing-use product labels must bear the following statement:

> "For formulation only into registered end-use rodenticides used in and around buildings and similar man-made structures, and in transport vehicles, and sites such as dumps, sewers, river and pond banks, feedlots, rabbitry fur farms, and game bird operations for the control of Norway rats, roof rats, and house mice."

2) Precautionary Statements

Manufacturing-use products shall bear the following statement:

> Exposure to warfarin during pregnancy should be avoided.

In addition, manufacturing-use products must bear the statement:

> Do not discharge into lakes, streams, ponds or public waters unless in accordance with an NPDES permit. For guidance, contact your Regional Office of the EPA.

b. End-Use Products

1) Use Pattern Statements

To be registered under this standard, end-use warfarin products must bear directions for use against the norway rat, roof rat, or house mouse at one or more of the following sites:

In and around homes, buildings and similar man-made structures, in transporation vehicles, or sites such as dumps, sewers, river and pond banks, feedlots, rabbitry fur farms, and game bird operations.

2) Precautionary Statements

For all field uses (those not adjacent to structures and sites such as transport vehicles), the following label statement should be added to end-use products:

> This product is toxic to wildlife. Mammals may be killed either by feeding on the warfarin bait or by feeding on poisoned animals which have fed on the bait. Before using in outdoor areas, consult the nearest office of the U.S. Fish and Wildlife Service (Endangered Species Specialist) or your state fish and game agency to determine if any endangered or threatened mammal species occur in the local area and if these species could be affected by the use of warfarin.

End-use products containing warfarin or its sodium salt should bear the following statement:

> Place in tamper-proof bait boxes or in areas innaccessible to children, pets, domestic animals and wildlife.

In addition, end-use products shall bear the statement:

> Avoid contamination of food and feedstuffs and food-handling surfaces.

8. Tolerance Reassessment

The current federally registered uses of this chemical are not subject to the requirement to obtain a tolerance under the provisions of the Federal Food, Drug, and Cosmetic Act. Therefore, no tolerance reassessment is needed for this Standard.

III. SUMMARY OF DATA REQUIREMENTS AND DATA GAPS

1. Introduction

Applicants for registration of manufacturing-use and end-use warfarin and warfarin sodium salt products must cite or submit the information identified as required in the tables in this chapter. The tables applicable to end-use products indicate whether the product to be tested is the technical grade or the formulation. Data generated on one formulation may be used to satisfy the data requirement for a substantially similar formulation. Information on which product-specific data requirements are already met is available in the guidance package.

Before each requirement is listed the Proposed Guidelines which describe the type of data and when the data are required to be submitted (43 FR, No. 163, 37336 of August 22, 1978; and 43 FR, No. 132, 29696 of July 10, 1978). Justification for why the test is required is provided in the Guidelines. A discussion of why data additional to that already submitted are necessary, or why data normally required by the Guidelines are not necessary for this chemical, are included in footnotes to the tables. The data requirements specified are the minimum that will be required. Areas where additional data may be required as the result of tiered testing are indicated.

Under Section 3(c)(2)(B) of FIFRA as amended, current registrants of warfarin and warfarin sodium salt products must agree to develop the required data within 90 days of being notified of these standards in order to remain eligible for reregistration.

Table A
Generic Data Requirements Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-3	Prod. Identity and Disclosure of Ingredients	yes	Technical Grade	no	-	yes/8 months[1]
163.61-4	Description of Manufacturing Process	yes	Technical Grade	no	-	yes/8 months[2]
163.61-5	Disc. of Formation of Unint. Ingredient	yes	Technical Grade	no	-	yes/8 months[3]
163.61-6	Declaration of Ingredient Limit	yes	Technical Grade	no	-	yes/12 months
163.61-7	Product Analyt. Methods & Data	yes	Technical Grade	partially	00002438	yes/12 months[4]

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[1] To update information on the identity and quantity of active, inerts, impurities, etc., use confidential statement of formula (EPA Form 8570-4).

[2] Although various producers have registered fourteen warfarin technical products, none have submitted descriptions of their manufacturing processes as required by the Guidelines. While some general information is available in the open literature (MRID #00002438, 05004094, 05003303) it is not specific to current registrations and is therefore not adequate to support reregistration.

[3] Partial information on unintentional ingredients (impurities) is available in specifications established by WARF (00002438). Whether the specifications describe all possible impurities or, for that matter whether currently registered products are manufactured to these specifications is not known and cannot be determined without these data.

[4] The Agency must receive from registrants methods (or reference to methods) for quantifying each identifiable impurity in the technical material used as the source of the active ingedient in end-use products. Impurities should be identified down to a level of 0.1 percent.

Table A
Generic Data Requirements for Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-8(c)(1)	Color	yes	Technical Grade	yes	00002438	no
163.61-8(c)(2)	Odor	yes	Technical Grade	yes	00002438	no
163.61-8(c)(3)	Melting Point	yes	Technical Grade	yes	00002438	no
163.61-8(c)(4)	Solubility	yes	Technical Grade	yes	00002438	no
163.61-8(c)(5)	Stability	yes	Technical Grade	yes	00002438	no
163.61-8(c)(6)	Octanol/Water Partition Coefficient	yes	Technical Grade	no	-	yes/8 months
163.61-8(c)(7)	Physical State	yes	Technical Grade	yes	00002438	no
163.61-8(c)(8)	Density or Specific Gravity	yes	Technical Grade	no	-	yes/8 months
163.61-8(c)(10)	Vapor Pressure	yes	Technical Grade	no	-	yes/8 months
163.61-8(c)(11)	pH	yes	Technical Grade	yes	00002438	no[5/]

These requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[5/] Although no submissions are available specifying the pH of Warfarin, the Agency does have equivalent data on file, to the effect that the pKa of 4.9 for Warfarin is comparable to that for acetic acid, 4.76.

Table A
Generic Data Requirements for Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
ENVIRONMENTAL FATE						
163.62-7(b)	Hydrolysis	yes	-	no	-	no[6]
163.62-8(b)	Aerobic Soil Metabolism	yes	-	no	-	no[7]
163.62-8(g)	Activated Sludge Metabolism	yes	-	no	-	no[8]
163.62-9(d)	Adsorp./Desorp.	yes	-	no	-	no[7]
163.62-10(b)	Terrestrial Field Dissipation	yes	-	no	-	no[7]

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

6/ No data are required because of the limited usage and use patterns of warfarin and its sodium salt. Manufaturing-use products must be labelled for discharge into lakes, ponds, streams, or public waters in accordance with an NPDES permit only.

7/ No data are required since the use patterns and label recommendations of these pesticides indicate that significant residues would not be expected to be introduced into the environment

8/ The requirement for the submission of these data is currently being deffered pending the review and modifications of the testing protocols. Consequently, the absence of acceptable data does not constitute a data gap.

Table A
Generic Data Requirements for Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
TOXICOLOGY[9]						
163.81-1	Acute Oral Toxicity	yes	Technical grade	yes	GS0011-120	no[10]
163.81-2	Acute Dermal Toxicity	yes	-	yes	GS0011-120	no[11]
163.81-3	Acute Inhalation Toxicity	yes	Technical grade	no	-	yes[12]/8 months
163.81-4	Primary Eye Irritation	yes	Technical grade	yes[13]	GS0011-120	no
163.81-5	Primary Dermal Irritation	yes	Techncial grade	yes[14]	GS0011-120	no
163.81-6	Dermal Sensitization	yes	Technical grade	no	GS0011-120	no

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[9] Available clinical evidence from warfarin's use as an anticoagulant drug are sufficient to satisfy all toxicology requirements except the acute inhalation toxicity test requirement.

[10] This test will be required for sulfaquinoxaline if registrants desire to retain this chemical as an active ingredient or if registrants do not retain the active ingredient claim and wish to retain sulfaquinoxaline as an inert ingredient. If slfaquinoxaline is found to be acutely toxic, the remaining acute toxicity tests will be required by the Agency (see page II-1 and Chapter IX).

[11] One adequate dermal toxicity test is available on technical warfarin (Shapiro 1976a, MRID #00002443).

[12] This test will be required unless data are presented to show that technical warfarin does not produce a respirable vapor or dust.

[13] Two adequate and two supplementary primary eye irritation studies were available on technical warfarin.

[14] Three tests are avialable. Two of these are adequate, but one does not satisfy the data requirement since the concentration of warfarin administered was not specified (00002851).

Table A
Generic Data Requirements for Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
TOXICOLOGY						
163.83-2	Oncogenicity	yes	-	no	GS0011-120	no[15/]
163.83-3	Teratogenicity	yes	-	yes	GS0011-120	no[16/]

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[15/] An oncogenicity test is required if the active ingredient, or any of its metabolites, degradation products, or impurities is structurally related to a recognized carcinogen or causes a mutagenic effect, requires a tolerance or an exemption from a tolerance, requires an issuance of a food additive regulation, or is likely to result in repeated human exposure over a significant portion of the life span. Warfarin is chemically related to coumarin which is reported to be oncogenic. However due to its expected exposure pattern testing will not be required.

[16/] See Chapter VI for a discussion of the Agency's rationale regarding this test. This test is not required since warfarin has been shown to be a weak teratogen as discussed in the FDA label statement.

Table A
Generic Data Requirements for Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
ECOLOGICAL EFFECTS						
163.71-1	Avian Single Dose Oral LD_{50}	yes	Technical* grade	no	-	yes/12 months
163.71-2	Avian Dietary LC_{50} (2 species)	yes	Technical* grade	no	-	yes/12 months
163.71-3	Mammalian Acute Toxicity	yes	Technical grade	yes[17/]	00002469	no
163.71-5	Simul. & Actual Field Testing for Mammals/Birds	yes	Technical* grade	no	-	undetermined[18/]
163.72-1	Fish Acute LC_{50}	yes	Technical* grade	no	-	yes[19/]/12 months
163.72-2	Acute Toxicity to Aquatic Inverterbrates	yes	Technical* grade	no	-	yes/12 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

17/ This study was performed using a 50/50 formulation of Warfarin-sulfaquinoxaline technical.
18/ Depending upon the results of the basic avian studies (163.71-1 and 163.71-2) a secondary toxicity study on a predatory avian species (preferably a barn owl) may be required. The purpose of this study would be to determine if 1-2 exposures would be sufficient to produce death in avian predators.
19/ One species only for the sodium salt and two species for warfarin.
* Does not apply to the sodium salt of warfarin.

Table A
Generic Data Requirements for Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
RESIDUE CHEMISTRY		no[20]				

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[20] See Chapter VII.

Table B
Product-Specific Data Requirements for Manufacturing-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-3	Prod. Identity and Disclosure of Ingredients	yes	MUP's	no	-	yes[1]/8 months
163.61-4	Description of Manufacturing Process	yes	MUP's	no	-	yes[2]/8 months
163.61-5	Disc. of Formation of Unint. Ingredient	yes	Technical grade	no	-	yes[3]/8 months
163.61-6	Declaration of Ingredient Limit	yes	MUP's	no	-	yes/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[1] To update information on the identity and quantity of active, inerts, impurities, etc., use confidential statement of formula (EPA Form 8570-4).

[2] Although various producers have registered fourteen warfarin technical products, none have submitted descriptions of their manufacturing processes as required by the Guidelines. While some general information is available in the open literature (MRID #00002438, 05004094, 05003303) it is not specific to current registrations and is therefore not adequate to support reregistration.

[3] Partial information on unintentional ingredients (impurities) is available in specifications established by WARF (00002438). Whether the specifications describe all possible impurities or, for that matter whether currently registered products are manufactured to these specifications is not known and cannot be determined without these data.

Table B
Product-Specific Data Requirements for Manufacturing-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-7	Product Analyt. Methods & Data	yes	Technical grade	partially	00002438 05002550 05002456	yes[4]/12 months
163.61-8(c)(1)	Color	yes	-	yes	00002438	no
163.61-8(c)(2)	Odor	yes	-	yes	00002438	no
163.61-8(c)(3)	Melting Point	yes	-	yes	00002438	no
163.61-8(c)(4)	Solubility	yes	-	yes	00002438	no
163.61-8(c)(5)	Stability	yes	-	yes	00002438	no
163.61-8(c)(6)	Octanol/Water Partition Coefficient	yes	Technical grade	no	-	yes/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

4/ The Agency must receive from registrants methods (or reference to methods) for quantifying each identifiable impurity in the technical material used as the source of the active ingedient in end-use products. Impurities should be identified down to a level of 0.1 percent.

Table B
Product-Specific Data Requirements for Manufacturing-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-8(c)(7)	Physical State	yes	-	yes	00002438	no
163.61-8(c)(8)	Density or Specific Gravity	yes	Technical grade	no	-	yes/8 months
163.61-8(c)(10)	Vapor Pressure	yes	Technical grade	no	-	yes/8 months
163.61-8(c)(11)	pH	yes	-	yes	00002438	no[5/]
163.61-8(c)(12)	Storage Stability	yes	MUP s	no	-	yes/15 months
163.61-8(c)(18)	Corrosion Characteristics	yes	MUP s	no	-	yes[21/]/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[5/] Although no submissions are available specifying the pH of Warfarin, the Agency does have equivalent data on file, to the effect that the pKa of 4.9 for Warfarin is comparable to that for acetic acid, 4.76.

[21/] This test will be required for MUP's of 3% or above, if the product is packaged in a metal container. For lower concentration formulations testing will not be required unless data on the higher concentrations indicate a problem.

Table B
Product-Specific Data Requirements for Manufacuturing Use Products of Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
TOXICOLOGY						
163.81-1	Acute Oral Toxicity	yes	-	yes	GS0011-120	no[22]
163.81-2	Acute Dermal Toxicity	yes	-	yes	GS0011-120	no[22]
163.81-3	Acute Inhalation Toxicity	yes	-	no	-	no[22]
163.81-4	Primary Eye Irritation	yes	-	yes	GS0011-120	no[22]
163.81-5	Primary Dermal Irritation	yes	-	yes	GS0011-120	no[22]
163.81-6	Dermal Sensitization	yes	-	no	GS0011-120	no[22]

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[22] Warfarin is formulated either with inert agents such as silicone and mineral and/or food materials such as grain. The toxicity of these products will be expected to be proportional to their warfarin content. In addtion, available clinical evidence from warfarin's use as an anticoagulant drug are sufficient to satisfy the toxicology requirements for these products. Therefore, separate acute oral toxicity, acute inhalation, acute dermal toxicity, primary dermal irritation, dermal sensitization tests, and primary eye irritation tests will not be required for warfarin end-use and non-technical manufacturing use products.

Table B
Product-Specific Data Requirements for Manufacturing-Use Products of Warfarin and its Sodium Salts

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
EFFICACY[23]						
	1.203[24] [25]	N/A	Technical* grade	See Chapter IX	-	yes/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

*Technical diluted to 0.025%.

[23] If registrants desire to retain sulfaquinoxaline as an active ingredient, they should consult with the Registration Division, OPP, EPA for additional information.

[24] 1.203 Standard Norway rat anticoagulant dry bait efficacy laboratory test method.

[25] The Agency is requiring efficacy data on technicals, in addition to data on end-use products, to insure that, if the producer of an end-use product switches technicals, the efficacy of the end-use product will not be adversely affected. Since a switch to an unpalatable technical warfarin could adversely affect several end-use products, the concern is an important one.

Table C
Product-Specific Data Requirements for End-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-3	Prod. Identity and Disclosure of Ingredients	yes	End-Use Products	no	-	yes[1]/8 months
163.61-4	Description of Manufacturing Process	yes	End-Use Products	no	-	yes/8 months
163.61-5	Disc. of Formation of Unint. Ingredient	yes	-	no	-	no[26]
163.61-6	Declaration of Ingredient Limit	yes	-	no	-	no[26]
163.61-7	Product Analyt. Methods & Data	yes	-	no	-	no[26]
163.61-8(c)(1)	Color	yes	End-Use Products	no	-	yes/8 months
163.61-8(c)(2)	Odor	yes	End-Use Products	no	-	yes/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[1] To update information on the identity and quantity of active, inerts, impurities, etc., use confidential statement of formula (EPA Form 8570-4).

[26] Several of the product chemistry data requirements that would ordinarily apply to end-use formulations have been waived because the production volumes of individual products are low and because much of the information that would be generated can be inferred from data on the technical chemical.

Table C
Product-Specific Data Requirements for End-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
PRODUCT CHEMISTRY						
163.61-8(c)(7)	Physical State	yes	-	no	-	no[27]
163.61-8(c)(8)	Density or Specific Gravity	yes	End-Use Products	no	-	yes/8 months
163.61-8(c)(11)	pH	yes	-	no	-	no[26]
163.61-8(c)(12)	Storage Stability	yes	End-Use Products	no	-	yes/17 months
163.61-8(c)(13)	Flammability	yes	-	no	-	no[27]
163.61-8(c)(14)	Oxidizing or Reducing Action	yes	-	no	-	no[27]
163.61-8(c)(15)	Explosiveness	yes	-	no	-	no[27]
163.61-8(c)(16)	Miscibility	yes	-	no	-	no[27]
163.61-8(c)(17)	Viscosity	yes	-	no	-	no[27]
163.61-8(c)(18)	Corrosion Characteristics	yes	-	no	-	yes[38]/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[26] Several of the product chemistry data requirements that would ordinarily apply to end-use formulations have been waived because the production volumes of individual products are low and because much of the information that would be generated can be inferred from data on the technical chemical.

[27] This information can be inferred from the confidential statement of formula.

[38] For sodium salts sold as a solution in water, this test would be required; for other formulations the information can be inferred from the Confidential Statement of Formula.

Table C

Product-Specific Data Requirements for End-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
TOXICOLOGY						
163.81-1	Acute Oral Toxicity	yes	-	yes	GS0011-120	no[22]
163.81-2	Acute Dermal Toxicity	yes	-	yes	GS0011-120	no[22]
163.81-3	Acute Inhalation Toxicity	yes	-	no	-	no[22]
163.81-4	Primary Eye Irritation	yes	-	yes	GS0011-120	no[22]
163.81-5	Primary Dermal Irritation	yes	-	yes	GS0011-120	no[22]
163.81-6	Dermal Sensitization	yes	-	no	GS0011-120	no[22]

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[22] Warfarin is formulated either with inert agents such as silicone and mineral and/or food materials such as grain. The toxicity of these products will be expected to be proportional to their warfarin content. In addition, available clinical evidence from warfarin's use as an anticoagulant drug are sufficient to satisfy the toxicology requirements for these products. Therefore, separate acute oral toxicity, acute inhalation toxicity, acute dermal toxicity, primary dermal irritation, dermal sensitization tests, and primary eye irritation tests will not be required for warfarin end-use products and non-technical manufacturing-use products.

Table C
Product-Specific Data Requirements For End-Use Products of Warfarin and its Sodium Salt

Guidelines Citation	Name of Test	Are These Data Required By the Guidelines?	Test Substance	Does EPA Have Data to Partially or totally Satisfy this Requirement?	Bibliographic Citation	Must Additional Data be Submitted under FIFRA 3(c)(2)(B)? If so, deadline for submission.
EFFICACY[23]						
	1.201[28]	N/A	Type III[29]	See Chapter IX	-	yes/8 months
	1.202[30]	N/A	Type III[29]	"	-	yes/8 months
	1.203[24] or 1.213[32]	N/A	Types IV,VI[31]	"	-	yes/8 months
	1.204[33] or 1.214[34]	N/A	Types IV, VI[31]	"	-	yes/8 months
	1.205[35]	N/A	Type V[36]	"	-	yes/8 months
	1.212[37]	N/A	Type V[36]	"	-	yes/8 months

These data requirements are current as of July, 1981. Refer to the Guidance Package for updated requirements.

[23] If registrants desire to retain sulfaquinoxaline as an active ingredient they should consult with the Registration Division, OPP, EPA for additional information.

[28] 1.201 Standard Norway rat anticoagulant liquid bait efficacy laboratory test method.

[29] Concentrates diluted into end-use liquid baits (Type III).

[30] 1.202 Standard house mouse anticoagulant liquid bait efficacy laboratory test method.

[24] 1.203 Standard Norway rat anticoagulant dry bait efficacy laboratory test method.

[31] Concentrates diluted into end-use dry baits (Type IV), and Ready-to-Use end-use dry baits (Type VI).

[32] Concentrates diluted into end-use dry baits (Type IV), and Ready-to-Use end-use dry baits (Type VI). 1.203 if the product has a claim such as wax block, wax pellet, use in wet or damp areas, mold resistant, use in sewers, weather-proof, all-weather, water proof, or weather-protected.

[33] 1.204 Standard house mouse anticoagulant dry bait efficacy laboratory test method.

[34] 1.214 Standard house mouse anticoagulant wax block andd wax pellet laboratory test method. Use this in place of 1.204 if the product has a claim such as: wax block, wax pellet, use in wet or damp areas, mold resistant, use in sewers, weather-proof, all weather, water-proof, weather-protected.

[35] 1.205 Standard Norway rat anticoagulant tracking powder efficacy laboratory test method.

[36] Ready-to-Use tracking powders (Type V).

[37] 1.212 Standard house mouse anticoagulant tracking powder efficacy laboratory test method.

IV. PRODUCT CHEMISTRY

1. Chemical Identity

Warfarin is the official common name for 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin (8 CI). Some trade names are: Dethmor^R, Kypfarin^R, coumafene, coumaphene, and RAX^R. The technical chemical characterization of Warfarin follows:

Other Chemical Names:
3-(1-phenyl-2-acetylethyl)-4-hydroxycoumarin
1-(4'-hydroxy-3'-coumarinyl)-1-phenyl-3-butanone
3-alpha-phenyl-beta-acetylethyl-4-hydroxycoumarin
4-hydroxy-3-(3-oxo-1-phenylbutyl)-2H-1-benzopyran-2-one (9 CI)

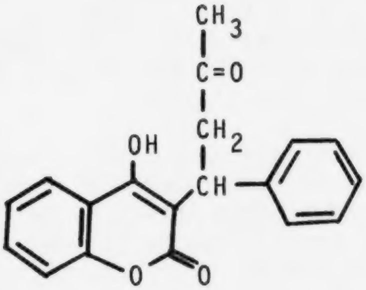
Molecular Weight: 308.32

Chemical Formula: $C_{19}H_{16}O_4$

Type: Rodenticide

Shaughnessy Numbers: 086002 (Warfarin)
086003 (Sodium Salt of Warfarin)

Structural Formula:



2. Manufacturing-Process

a. Warfarin

Fourteen warfarin technical products (98 to 100% warfarin) have been registered by producers, but none of them have submitted a description of the manufacturing process. However, information in the literature indicates that: warfarin is produced by the Michael condensation of 4-hydroxycoumarin and benzalacetone. The reaction is carried out in aqueous or solvent media in the presence of a basic catalyst (WARF, 1967, 00002438).

U.S. Patent Number 2,427,578 issued on September 16, 1947, to Stahmann, Ikawa and Link (1947, 05004094), assignors to Wisconsin Alumni Research Foundation (WARF), Madison, Wisconsin describes a manufacturing process of 3-substituted 4-hydroxycoumarin products (of which warfarin is one).

British Patent Specification 715,846 dated September 22, 1954, issued to S.B. Penick and Company (Penick, 1954, 05003303) covers an improved process for the manufacture of warfarin. This procedure also utilizes the condensation of benzalacetone with 4-hydroxycoumarin. The reaction is carried out under reflux using an amine catalyst under slightly acidic conditions. The procedure produces a solid crude product which can readily be suspended in benzene, toluene or chloroform. The suspension is refluxed and cooled, filtered, dissolved in 5% sodium hydroxide and the solution washed with chloroform or a similar solvent. The alkaline solution is acidified and the precipitate filtered and washed with water and dried.

Various amines including aniline, piperidine, triethylamine and diethanolamine in amounts equal to about 5 mole percent of the 4-hydroxycoumarin give favorable yields. Yields reported under various conditions with various amines vary from 48% to 90% of theoretical yield.

b. Warfarin - Sodium Salt

Little, if any, data are available on the chemistry of the sodium salt. What is known has been gleaned from the open literature rather than from Agency files of submissions by registrants. Referred to in the literature as warfarin, sodium or 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin, sodium salt ($C_{19}H_5NaO_4$) (Shaughnessy 086003) it is a solid which is "freely soluble in aqueous solution" (WARF, 1967, 00002438).

The acidic nature of warfarin is due to the enolic hydroxyl group in the 4-position of the coumarin moiety (WARF, 1967, 00002438). The enol forms alkali metal salts. Two of these, the sodium and potassium salts (Rohwer, 1950,05002773) are used clinically as anticoagulants (Schroeder and Link, 1965, 05001926). Of the two, only the sodium salt of warfarin is currently registered for use as a rodenticide.

The principal value of this formulation is that it is water soluble, while the parent technical-grade warfarin compound is not. In addition to the technical salt (100% a.i.), a formulation intermediate (at 42.85 percent a.i.) and several concentrates, intended to be diluted into end-use formulations (from 0.127 percent to 0.54 percent) are currently registered. The end-use formulations are described as soluble solid concentrates intended for dilution with water in bait applications. Some of the concentrates contain sulfaquinoxaline (see page II-1 for more information on this).

The salt can be manufactured according to the processes of Schroeder and Link, (1965, 05001926) (U.S. Patent 3,192,232). The salt may be produced by reacting an aqueous slurry of warfarin containing an excess of warfarin, with an aqueous solution of sodium hydroxide, and then removing the excess warfarin.

Although the Agency has published a method for analyzing the sodium salt and its impurities using high-pressure liquid chromatography (Bontoyan, 1976, GS0020-024), no other data have been submitted or found.

3. Formation of Unintentional Ingredients

Some information on unintentional ingredients (impurities) is available from specifications established in the past for technical warfarin by WARF as a service to the pesticide industry (WARF, 1967, 00002438). This information is summarized in the following section ("Percentage of Components in Warfarin Products"). Since none of the producers has submitted an adequate, up-to-date discussion of the formation of unintentional ingredients, the present status of these specifications is unknown.

4. Percentage of Components in Warfarin Products

Table IV-A shows the types of warfarin (including the sodium salt and those containing sulfaquinoxaline) products that are registered with the Agency. There are fourteen registered technical products which are described as containing 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin (warfarin) at 98-100%. The source of the warfarin is indicated for two of these. The available quantitative information on impurities is provided by specifications established by WARF (1967, 00002438) for the technical product: These specifications are: (1) warfarin on an "as is" basis, 98-105% (sic). (2) Drying loss, not to exceed 1%. (3) Maximum tolerance for benzalacetone and alkali insolubles, 100 mg/kg. (4) "Alice's Ketone" [specifically 3-(o-hydroxyphenyl)-5-phenyl-2-cyclohexene-1-one], not to exceed 45 ppm.

There is no indication that producers are now adhering to these specifications. However, the amount of impurities in some individual products are known by the Agency.

In addition to the above, warfarin is also available in the following products: formulation intermediates containing from 0.5 to 50% warfarin, concentrates (sodium salt) containing from 0.127% to 0.54% active ingredient and intended for dilution into liquid end-use baits, concentrated dusts at 0.3 to 2.0% warfarin for dilution to dry end-use baits, and a ready-to-use tracking powder containing 1.0% warfarin. Granular forms at 0.025-2.0% warfarin, pelleted/tableted forms at 0.021-0.054% warfarin, and impregnated forms at 0.025% warfarin are produced as ready-to-use dry baits. The formulation intermediates are considered to be manufacturing-use products.

Many formulations also contain sulfaquinoxaline [N'-2-quinoxalinyl)sulfanilamide]. This is discussed on page II-I of this Standard. The inert ingredients are not always identified. Few, if any, physical and chemical properties are reported on the inerts, and those few are minor (color, for example).

The end-use products are registered for general use in the control of rats and mice, which is a non-food use. Therefore, clearances for the added inert ingredients are not a consideration in this Standard.

5. Product Analytical Methods and Data

Information on methods of analysis for technical warfarin, formulations and some impurities is contained in WARF, 1967 (00002438). The methods are as follows:

Technical Warfarin -	A 500 mg sample of warfarin is weighed into a 100 ml volumetric flask and diluted to volume with 0.1 N sodium hydroxide. A 5 ml aliquot of this solution is diluted to 100 ml with 0.1 N sodium hyroxide. The absorbance is determined at 308 nm in a Beckman spectrophotometer or its equivalent with 0.1 N sodium hyroxide as a blank.

TABLE IV-A

TYPES OF PRODUCTS CONTAINING WARFARIN, SODIUM SALT OF WARFARIN, AND SULFAQUINOXALINE ACCORDING TO PERCENT ACTIVE INGREDIENT AND FORMULATION

	WARFARIN (a)	SODIUM SALT OF WARFARIN (b)	WARFARIN AND SULFAQUINOXALINE (c)	SODIUM SALT OF WARFARIN PLUS SULFAQUINOXALINE (d)
I. Technicals and concentrates (more than 3%) to be formulated into other products.				
	98-100% 50%, 10% 5%	42.85%	4%/4%	
II. Concentrates (less than 3%) to be repackaged or reformulated into other products.				
	1.162% 0.5%		0.5%/0.5%	0.27%/0.25%
III. Concentrates to be diluted into end-use liquid baits				
		0.127% 0.14% 0.54%		0.54%/0.5%
IV. Concentrates to be diluted into dry end-use baits				
	2.0% 0.5% 0.3%		0.4%/0.4% 0.5%/0.5%	
V. Ready-to-use tracking powder				
	1.0%			
VI. Ready-to-use dry baits				
	0.054% 0.025% 0.021%		0.025%/0.025%	

Formulations - Concentrated form (0.5% Warfarin). This type of formulation is analyzed by extracting the warfarin with an organic solvent or by alkali extraction. The absorbance of the alkali solution containing the warfarin is read at 308 nm.

Finished Baits (0.025-0.50%). Warfarin is extracted with 1% sodium pyrophosphate, acidified and extracted with organic solvent, and then extracted from the organic solvent with 1% sodium pyrophosphate and the absorbance read at 308 nm.

In addition, Billings et al (1976, 05002456) describe a high performance liquid chromatographic method for determining warfarin with good reproducibility in a variety of commercial samples.

Mundy et al (1976, 05002550) reported a high performance liquid chromatographic method for determining warfarin in animal remains and feedstuffs. The method includes a procedure for the identification of warfarin by mass spectroscopy, using the chemical ionization mode and AMU of 309 and 337 which is applicable to formulations. Information of general interest on fluorometric and thin layer chromatographic methodology is available [See Thiemann and Neumann (1970, 05005623), Caissie and Mallet (1976, 05002447), Kamm (1968, 05005625), Pranitis and Stolman (1975, 05001734), Lau-Cam (1978, 05002715), and Schroeder et al (1973, 05002585)].

Infrared and ultraviolet spectra are described by Gore et al (1971, 05003225) and Siek et al (1976, 05001721).

The Agency has published methods utilizing ultraviolet spectroscopy and high pressure chromatography (Bontoyan, 1976, GS0020-024).

Methods are available (WARF, 1967, 00002438) for benzalacetone, o-hydroxyacetophenone i.e., "Alice's Ketone", in the technical product, but validating data are absent.

6. Physical and Chemical Properties

There are some data available on the physical and chemical properties of warfarin. Available data on technical warfarin by WARF (1967, 00002438) are as follows:

Color: White to near white

Odor: Essentially odor free (odorless)

Melting point: Range 3°C, limits from 159°C to 165°C

Solubility: The solubilities of technical warfarin in selected solvents are as follows: water 1.7 mg/100 ml at 20°C, acetone 6.5 g/100 ml at 20°C, benzene 0.3 g/100 ml at 20°C, carbon tetrachloride 0.015 g/100 ml at 20°C, chloroform 5.6 g/100 ml at 20°C, acetonitrile 3.6 g/100 ml at 20°C, acetic acid 1.95 g/100 ml at 20°C, dioxane 10.0 g/100 ml at 20°C, and petroleum ether 0.00125 g/ml at 20°C.

Physical State: Crystalline solid (powder)

Stability: Stable

7. Summary of Major Data Gaps

a. Technical Warfarin

Product chemistry data gaps for technical warfarin (and its sodium salt) are of two general kinds: 1) descriptions of the manufacturing process and analytical methods for the impurities that may be formed during manufacture; and 2) physical and chemical properties of the technical compound (octanol/water coefficient, density or specific gravity, vapor pressure).

b. Manufacturing Use Products (MUP's)

Product Chemistry data requirements for warfarin MUP's (and the sodium salt) include the same general manufacturing and impurities information that is required for the technical compound, and in addition, more detailed data on impurities and the quantities in which they are expected to appear. Analytical methods for use in identifying and quantifying impurities are also required.

c. End-Use Products

As with MUP's, data requirements for end-use products focus on product and impurity description and quantification. Several other data gaps exist but most data requirements have been waived.

V. ENVIRONMENTAL FATE

1. Use Profile

Warfarin is a minor use pesticide that has a total yearly production of less than 250,000 pounds active ingredient. Warfarin is used as liquid and dry baits in and around buildings and other structures and in transport vehicles (trucks, planes, and ships) around dumps, sewers, river and pond banks, feedlots, rabbitry fur farms, and game bird operations for the control of Norway and roof rats and house mice (commensal rodents). The sodium salt is intended for use in liquid baits for the control of the same rats and mice in areas noted above. Most of the older labeling simply instructs the user to place baits in areas where rats and mice "feed, water or travel." A few labels also specify the use of warfarin products in dumps. The baits are to be placed in locations not accessible to children, pets, livestock or nontarget wildlife or in some cases, are to be placed in tamper-proof bait boxes.

Warfarin and its sodium salt may be used in conjunction with other rodenticides in control programs. There are products in which sulfaquinoxaline is mixed with warfarin. Sulfaquinoxaline is intended as an active ingredient to reduce the internal build up of vitamin "K" which is needed for normal blood clotting in target organisms (See additional information on page II-1). Specific information on the use of the different types of warfarin-containing products follow (table IV-A shows the types of registered warfarin products).

Type I. Technical and Concentrates (>3%)

Formulated into Registered Products

These products are to be used only to formulate other registered products and, therefore, do not have application directions.

Type II. Concentrates Diluted into Registered Baits

These products are to be repackaged or formulated into other registered products. This type of product will not bear end-use application directions.

Type III. Concentrate Diluted into End-Use Liquid Baits

These products, which all contain the Sodium Salt of warfarin, are intended to control Norway and roof rats and house mice. They are intended for use in and around homes, industrial and agricultural buildings, and similar man-made structures and inside of transport vehicles (ships, aircraft, trains); dumps; sewers; river and pond banks; feedlots; rabbitry fur farms; and game bird operations. They are to be diluted with water to prepare a liquid bait containing from 0.0053% to 0.0061% active ingredient. The label specifies that the baits are to be applied in the following manner for control of commensal rats and mice:

a) For rats, up to 1 quart of bait solution is placed in shallow containers, chick founts, or special dispensers, where rats feed, water or travel. Bait is maintained at these locations for a minimum of 10 days.

b) For mice, up to 1 pint of bait solution is placed in shallow containers, chick founts, or special dispensers, set at 8 to 12 feet intervals where mice feed, water or travel. Bait is maintained at these locations for a minimum of 15 days.

Type IV. Concentrates Diluted into End-Use Dry Baits

These products are intended to control Norway and roof rats and house mice. They are intended for use in and around homes, industrial and agricultural buildings, and similar man-made structures and inside of transport vehicles (ships, aircraft, trains); dumps; sewers; river and pond banks; feedlots; rabbitry fur farms; and game bird operations. They are to be diluted (one part concentrate to 19 parts bait, by weight) with materials such as corn meal, rolled oats, meat, and fish to prepare an essentially dry bait containing 0.025% active ingredient. The label specifies that baits are to be applied in the following manner:

a) For rats, 4 to 16 oz. of bait is placed in dry, shallow containers at locations where rats feed, water or travel. Bait is maintained at these locations for a minimum of 10 days.

b) For mice, 0.25 to 0.5 oz. of bait is placed in dry, shallow containers at intervals of 8 to 12 feet where mice feed, water or travel. Bait is maintained at these locations for a minimum of 15 days.

Type V. Ready-to-Use Tracking Powder

These products, which are formulated as ready-to-use dust (powder) formulations are intended to control Norway and roof rats and house mice. They are for use inside of homes, industrial and agricultural buildings, and similar man-made structures. They are to be used without dilution (ready-to-use).

Type VI. Ready-to-Use, End Use Dry Baits

These products, which are formulated as ready-to-use granular meal, pellets, or block, are intended to control Norway and roof rats and house mice. They are intended for use in and around homes, industrial and agricultural buildings, and similar man-made structures and inside of transport vehicles (ships, aircraft, trains); dumps; sewers; river and pond banks; feedlots; rabbitry fur farms; and game bird operations. They are to be used without dilution in the manner discussed above in the directions for Type III Warfarin products.

2. Environmental Fate Profile

The only environmental chemistry data on warfarin was a study by Buckelew et al. (1972, 05002786) who investigated the short-term influence of warfarin on the growth on the gram-positive spore-forming soil microorganism *Bacillus megaterium*. Impregnation of paper disks and subsequent measurement of the zones of growth inhibition showed that spore germination for this bacterium was not affected by the presence of warfarin for 15-21 hours at 25°C at concentrations as high as 1 mg/ml (about 1,000 ppm).

This study provides the only data available on the effect of warfarin on microbes. No data were submitted on the effects of the warfarin sodium salt on microbes. Available data are insufficient to assess the environmental fate of warfarin.

3. Exposure Profile

Products of warfarin and the sodium salt of warfarin are available for use by commercial applicators and by homeowners in the form of dust and liquid concentrates as well as dry end-use formulations. The dust concentrate is diluted into dry end-use baits by mixing with materials such as oats, corn meal, meat or fish, and is placed in shallow containers for a minimum of ten days for the control of rats. Liquid concentrates are mixed with water and then placed in the same manner. There is a potential for dermal contact during preparation and placement of the end-use baits, particularly in the case of untrained or inexperienced users. Due to the extremely low potential for vaporization of either warfarin or its sodium salt, and the coarse nature of the vehicle used for the dust concentrate, inhalation exposure is unlikely. Since the concentrates are mixed with edible substances and remain in place for several days, there is a potential for accidental ingestion of the end-use baits by children and domestic animals, especially if use directions are not followed explicitly.

Specific qualitative exposure analyses for technical warfarin, warfarin solid concentrate, sodium salt of warfarin solid concentrate, and warfarin solid ready-to use follow:

Technical Warfarin: For persons involved in the handling, storage, and shipment of technical warfarin there is little likelihood of oral exposure. However, because this product is in the form of a powder, there is a possibility of both dermal and inhalation exposure.

Warfarin Solid Concentrate and Sodium Salt of Warfarin Solid Concentrate: For persons preparing baits by mixing the concentrate with an edible substance, there is a potential for inhalation or dermal exposure from contact with the active ingredient. There is also potential for exposure through ingestion of the baits made from these concentrates, particularly by children and domestic animals. Because the bait remains in place from 10 to 15 days or longer, such ingestion could be repeated.

The potential for direct ingestion also applies to wildlife which have access to the bait areas, especially birds, small mammals, related rodents, or other animals which may frequent the treatment areas. Ingestion may also occur if predators eat exposed wildlife or target animals.

Warfarin Solid Ready to Use: For persons handling the ready-to-use warfarin products, there is little chance of exposure by ingestion or inhalation. Dermal exposure is possible, but is expected to be less likely than during mixing and subsequent placement of the concentrates. There is a potential for ingestion of the baits by children and domestic animals, especially if use directions are not followed explicitly.

The potential for ingestion applies as well to wildlife which have access to the bait areas, especially birds, small mammals, related rodents, or other animals which frequent treatment areas. Ingestion may also occur if predators and domestic animals eat the target animal or exposed non-target wildlife (see Ecological Effects Chapter), or if use directions are not followed explicitly.

VI. Toxicology

1. Toxicology Profile

Sodium warfarin [*] has been used as an anticoagulant drug in humans since the late 1950's. An extensive body of literature has accumulated from this use. Information is available on dose and effect relationships, mechanism of action, spectrum of toxic effects and treatment of toxic effects. Detailed discussions of this data are found in all pharmacology and toxicology text books and a knowledge of warfarin's toxicity is part of the training of physicians. A working knowledge is necessary for all physicians treating cardio-vascular conditions. The Agency has, therefore, based its determinations relative to human safety in this Standard on this body of human evidence. Also included for information of the reader only is a discussion of specific registrant-submitted and some open-literature toxicity studies of warfarin. This data is summarized in Table VI-A.

2. Technical and Manufacturing-Use Products

a. Technical

General information on the oral toxicity of the sodium salt of warfarin to humans is readily available (Gosselin et al., 1976, GS0011-117; Meyers et al., 1978, GS0011-119; DiPalma, 1971, GS0011-121; Gilman et al., 1980, GS0011-122;).

Available estimates of the acute oral LD_{50} of technical warfarin in animals vary considerably in the available literature (Table VI-A). The human data from the public literature suggest that technical warfarin may be highly toxic to humans (Gaines, 1960, 05002272; Back et al., 1978, 05003932; Hagan and Radomski, 1955, 05002258 -- see also Zendzian, 1981, GS0011-120).

Although an instance of human poisoning has been alledged to have resulted from the repeated careless use of a warfarin concentrate (Fristedt and Sterner, 1965, 05002245), no reports of toxicity following single exposures are available. A low dermal toxicity is expected (Category III) (Zendzian, 1981, GS0011-120). In studies with rabbits, the acute dermal toxicity of warfarin on intact skin was low (LD_{50} greater than 8 g/kg) (Shapiro, 1976, 00002443).

No toxicity data were available to assess the acute inhalation toxicity of warfarin. Based upon the available data on the physical properties of warfarin, it is highly unlikely that warfarin would produce sufficient quantities of vapor to be toxic (Zendzian, 1981, GS0011-120).

---

[*] There are essentially no toxicological differences between technical warfarin and sodium warfarin when adjustments are made for the relative purity of the individual batches of test material.

TABLE VI-A

WARFARIN TOXICITY STUDIES

TEST/MATERIAL	ORGANISM	SEX	RESULTS	CITATION
ACUTE ORAL LD_{50}				
- Technical Warfarin	Rat	M	3.0 mg/kg	Gaines, 1960, 05002272
- Technical Sodium Warfarin	Rat	M F	112 mg/kg 10.4 mg/kg	Back et al.,1978,05003932
- Technical Sodium Warfarin	Rat	M F	100.3 mg/kg 8.7 mg/kg	Back et al.,1978, 05003932
- Technical Sodium Warfarin	Rat	M F	323 mg/kg 58 mg/kg	Hagan and Radomski, 1953, 05002258
	Guinea Pig	M,F	182 mg/k	"
	Mouse	M,F	374 mg/kg	"
	Rabbit	M,F	800 mg/kg	"
	Dog	M,F	200-300 mg/kg	"
	Chicken	M,F	>1 g/kg	"
- Technical Warfarin	Cats	-	2.5 - 20 mg/kg	Til et al., 1974, 00002461
- Warfarin	Rat	M F	450-680 mg/kg <10 mg/kg	WARF, 1977, GS0011-106
- Warfarin	Rat	F	2.5 - 5.0 mg/kg	WARF, 1977, GS0011-107
- Encapsulated Warfarin	Rat	M F	12.5 mg/kg 1.2 - 2.5 mg/kg	WARF, 1977, GS0011-103
- Encapsulated Warfarin	Rat	M F	32 mg/kg <10 mg/kg	WARF, 1977, GS0011-102
- 5.4% Granular Warfarin	Rat	M,F	55 g/kg	Shapiro, 1977, 00002282
- 5.4% Granular Warfarin	Rat	M	<100 g/kg	Shapiro, 1977, 00002281
- 0.025% Bait	Rat	M,F	>20 g/kg	WARF, 1977, GS0011-113

-CONTINUED-

TABLE VI-A (CONTINUED)

TEST/MATERIAL	ORGANISM	SEX	RESULTS	CITATION
ACUTE DERMAL LD_{50}				
- Technical Warfarin	Rabbit	M,F	>8 g/kg	Shapiro, 1976, 00002443
- 5.4% Granular Warfarin	Rabbit	M,F	>20 g/kg	Shapiro, 1977, 00002280
- 0.025% Bait	Rabbit	F	>20 g/kg	WARF, 1977, GS0011-116
PRIMARY EYE IRRITATION				
- Warfarin	Rabbit	-	None	WARF, 1977, GS0011-104
- Technical Warfarin	Rabbit	-	Mild conjunctival irritation	Shapiro, 1976, 00003288
- Encapsulated Warfarin	Rabbit	-	None	WARF, 1977, GS0011-100
- Technical Warfarin	Rabbit	-	Slight conjunctival irritation	Shapiro, 1977, 00002430
- 0.54% Granular Warfarin	Rabbit	-	Conjunctival irritation	Shapiro, 1976, 00002852
- 0.025% Bait	Rabbit	-	None	WARF, 1977, GS0011-115
- 5.4% Granular Warfarin	Rabbit	-	Moderate to severe conjunctival irritation	Shapiro, 1977, 00002284
PRIMARY DERMAL IRRITATION				
- Warfarin	Rabbit	-	None	WARF, 1977, GS0011-105
- Technical Warfarin	Rabbit	-	None	Shapiro, 1976, 00002851
- Encapsulated Warfarin	Rabbit	-	None	WARF, 1977, GS0011-101
- 0.54% Warfarin	-	-	Mild dermal irritation at 24 hours	Shapiro, 1976, 00003287
- 5.4% Granular	-	-	Very slight dermal irritation at 24 hours	Shapiro, 1976, 00002283

-CONTINUED-

TABLE VI-A (CONTINUED)

TEST/MATERIAL	ORGANISM	SEX	RESULTS	CITATION
- 0.025% Bait	-	-	Very slight dermal irritation at 24 hours	Shapiro, 1976, 00003290
- 0.025% Bait	Rabbit	-	None	WARF, 1977, GS0011-114
TERATOGENICITY				
- Clinical Sodium Warfarin	Human	F	Fetal Abnormalities	Sherman and Hall, 1976, 05002097
- Clinical Sodium Warfarin	Human	F	"	Shaul et al., 1975, 05001852 ., 1975,
- Clinical Sodium Warfarin	Human	F	"	Warkany, 1976, 05001730
- Clinical Sodium Warfarin	Human	F	"	Holzgreve et al., 1976, 05003388
CLINICAL EXPERIENCE				
- 0.25% Warfarin on corn meal	Human	M,F	2 fatalities after ingesting the meal over 15 days	Lange and Terveer, 1954, 05004097
EMERGENCY TREATMENT				
- Clinical Sodium Warfarin	Human "	M,F "	- -	Gosselin et al., 1974, GS0011-117
"	"	"	-	Casarett and Doull, 1975, GS0011-118
"	"	"	-	Meyers et al., 1978, GS0011-119
"	"	"	-	Di Palma, 1971, GS0011-121
"	"	"	-	Gilman et al. 1980, GS0011-122

Warfarin has no chemical moities capable of acidic or basic function and there are no reeorts of tissue damage following human use (including that by injection) of liquid warfarin. Human data and the chemistry of warfarin indicate a low potential for acute eye effects (Zendzian, 1981, GS0011-120). Primary eye irritation studies (one on technical warfarin, WARF, 1977, GS0011-104; one on encapsulated technical warfarin, WARF, 1977, GS9911-100) in animals indicated that this material was not an eye irritant while other studies indicated that technical warfarin produced mild to slight irritation of the conjunctive. Information on the concentration of warfarin used was not specified in these studies (Shapiro, 1976, 00003288; Shapiro, 1977, 00002430).

Despite extensive human use of warfarin, no reports of dermal inflammatory or allergic responses are available, therefore, warfarin's potential for causing acute dermal effects is judged to be low (Zendzian, 1981, GS0011-120). One animal study on an unspecified concentration of warfarin showed that it was not irritating to the intact skin of rabbits. In this study neither the concentration of warfarin nor the diluent of the study material were specified (Shapiro, 1976, 00002851). Two additional animal studies (one on technical warfarin, WARF, 1977, GS0011-105; one on encapsulated technical warfarin, WARF, 1977, GS0011-101) also indicated that this material was not a primary skin irritant. No data were available to assess the dermal sensitization potential of technical warfarin.

3. End-Use Products

Warfarin end-use products are usually formulated with inert agents such as silicone and mineral or food materials such as grain. The toxicity of these products is expected to be proportional to their warfarin content. All toxicity data requirements are satisfied by available clinical evidence associated with warfarin's human drug use. Other data are discussed below for the readers general information only.

a. Granular

One study indicated that the acute oral LD_{50} of a 0.025% granular bait was greater than 20 g/kg for both male and female rats (WARF, 1977, GS0011-113). Additional acute oral toxicity studies are available on a granular formulation containing 5.4% warfarin (Shapiro, 1977, 00002282; Shapiro, 1977, 00002281).

One animal study of a 5.4% granular product indicated an acute dermal toxicity of greater than 20 g/kg (Shapiro, 1977, 00002280). An additional acute dermal toxicity study with 0.025% warfarin bait gave similar results (WARF, 1977, GS0011-116). In a primary eye irritation study, 0.1 ml of a 0.54%

granular formulation produced conjunctival irritation in rabbits. The study did not report the concentration of warfarin used (Shapiro, 1977, 00002852). In another primary eye irritation study, (Shapiro, 1977, 00002284) 0.1 ml of a 5.4% granular formulation produced moderate to severe conjuntival irritation (the concentration of warfarin and the diluent of the test material used were not specified). Another primary eye irritation study indicated that a 0.025% warfarin bait was negative in this regard (WARF, 1977, GS0011-115). Because of the characteristics of the solid granular materials mixed with some warfarin formulations, these products would be expected to physically irritate the eye.

In a primary dermal irritation study, 0.5 ml of a granular formulation produced very slight dermal irritation at 24 hours. The concentration of warfarin used was not specified in this study (Shapiro, 1977, 00002283). In a primary dermal irritation test, 0.5ml of a 0.54% granular formulation produced mild dermal irritation at 24 hours. This study did not indicate the concentration of warfarin used (Shapiro, 1976, 00003287). One other primary skin irritation study with a 0.025% bait indicated that this material was negative in this regard (WARF, 1977, GS0011-114).

In a primary dermal irritation study 0.5 ml of a pelletted/tableted formulation produced very slight dermal irritation at 24 hours. The concentration of warfarin and the diluent of the test material used were not reported (Shapiro, 1976, 00003290).

4. Toxicity Categories

An acute oral toxicity category of I for technical warfarin, is indicated by human data. Formulated products having 2% or less warfarin would have a much lower acute oral toxicity category. In addition, human data seem to indicate a toxicity category III for eye effects for technical warfarin and category IV for skin effects for technical, warfarin. Human data indicate an acute dermal toxicity category of III for technical warfarin.

5. Human and Domestic Animal Hazard Assessment

A large data base exists for sodium warfarin as a result of its clinical use as an anticoagulant drug. These data clearly delineate the drug doses of sodium warfarin its effects its mechanism of action, and the treatment for poisoning by warfarin (Zendzian, 1981, GS0011-120). Data also indicate that warfarin is a weak teratogen, (Sherman and Hall, 1976, 05002097; Shaul et al., 1975, 05001853; Warkany, 1976, 05001730; Holzgreve et al., 1976, 05003388), and the FDA, therefore, requires the following label warning on products used during pregnancy:

> Pregnancy - COUMADIN passes through the placental barrier, and the danger of hemorrhage to the fetus exists even to the point of fatal hemorrhage in utero even in the accepted therepeutic range of maternal prothrombin level. Close oberservation and laboratory control are essential. The newborn may be particularly sensitive to sodium warfarin. There have been reports of birth malformations in children born to mothers who have been treated with warfarin during the first trimester of pregnancy. Whether warfarin was in fact the responsible agent has not been established. Therefore, women of childbearing potential who are candidates for anticoagulant therapy should be carefully evaluated and the

> indications critically reviewed. If COUMADIN must be used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential risks to the fetus, and the possibility of termination of the pregnancy should be discussed in light of those risks.

The Agency finds this statement to be a reasonable summary of the scientific data on warfarin's teratogenic potential in humans.

The Agency believes that a label warning against exposure of pregnant females is approriate on manufacturing-use warfarin products. Registrants who disagree with this assessment must supply the Agency wrth data regarding warfarin's teratogenic potential.

Some warfarin products contain sulfaquinoxaline as an additional active ingredient. The Agency has determined that data do not show sulfaquinoxaline to be an efficacious active rodenticidal ingredient (see page II-1 and Chapter IX). Additionally, data are not available to allow the Agency to determine whether sulfaquinoxaline presents a risk to humans. Therefore, the Agency will require registrants who wish to retain this ingredient in their formulations to perform a test on technical sulfaquinoxaline to determine its acute oral LD_{50} and if it is found to be acutely toxic, registrants will be required to perform, in addition, all acute toxicology tests required by the guidelines.

6. Summary of Major Data Gaps

An acute inhalation toxicity test is required for warfarin. In addition, at least an acute oral LD_{50} test will have to be performed on sulfaquinoxaline (additional basic acute toxicity tests will be required for sulfaquinoxaline if it is found to be acutely toxic by the oral route).

VII. RESIDUE CHEMISTRY

Federally registered products containing warfarin and its sodium salt are used as rodenticides for the control of various species of rats and mice. These products have no food or feed use. Thus, there are no residue chemistry data requirements for warfarin and the sodium salt of warfarin. As a deterrant to its use around food and feed, label directions must include in the precautionary section the statement; "Avoid contamination of food and feedstuffs and food-handling surfaces."

VIII. ECOLOGICAL EFFECTS

1. ECOLOGICAL EFFECTS PROFILE

a. Manufacturing-Use Warfarin and Warfarin Sodium Salt

No ecological effects data exist on technical warfarin. One study exists on a 50/50 percent formulation of warfarin - sulfaquinoxaline technical, (Evans and Ward, 1967, 00002469). Warfarin - sulfaquinoxaline caused secondary poisoning in mammalian carnivores such as mink and dogs when ingesting prey (nutria) killed after they were provided treated bait (carrots containing 0.025% by weight of the test material).

b. Formulated Product - Warfarin and Warfarin Sodium Salt

An acute oral mallard duck study was performed on a 10% formulation of warfarin, (Grolleau and Paris, 1975, 05005716). This formulation of warfarin is no more than moderately toxic to mallard ducks (LC_{50} > 120 mg/kg) when administered as a single dose. However when exposed to 50 mg/kg for a period of 14 days, 4 out of 5 ducks died.

A 96 hour rainbow trout study was performed using a 0.54% formulation of warfarin sodium salt, (U.S. EPA, 1975, NA00860E). With a 96 hour LC_{50} of > 10,000 ppm, this formulation is non-toxic to rainbow trout.

2. Hazard Assessment

Formulated Products: warfarin is registered for several field uses for the control of Norway and roof rats, all of which can result in exposure to fish and wildlife. These field uses include uncultivated agricultural areas, non-agricultural areas such as railroad rights-of-way, and aquatic areas such as river banks. Exposure can result both from direct ingestion of the poisoned bait or from the consumption of weakened or dead prey.

Although warfarin - sulfaquinoxaline demonstrated secondary poisoning in mink, it is difficult to predict the actual hazard to mammalian carnivores in the field since in this study, the earliest* death occurred after 8 days of continuous exposure to treated nutria. Although it is unlikely that a wild carnivore would receive a continuous exposure to warfarin through its prey, the possibility of secondary poisoning in the field should not be overlooked. However, since most field uses for warfarin are in commercial or industrialized areas and because these uses would tend to be localized, secondary poisoning would be unlikely to have an adverse effect on populations of mammalian carnivores. Use of warfarin around agricultural premises would also have a limited effect on mammal populations. The use of warfarin near the habitat of endangered and threatened species would require special considerations, however.

---

* An unpublished study has shown secondary poisoning in mongooses after three warfarin-poisoned rats were consumed (personal communication, Larry Pank, U.S. Fish & Wildlife Service, 1981 GS0011-109). This study will be evaluated by the Agency when it is available.

Due to the absence of sufficient non-target toxicity data a hazard assessment can not be made for field uses of formulated products.

3. Summary of Major Data Gaps

The major data gaps for Warfarin, including the sodium salt are the basic set of avian, fish, and aquatic invertebrate toxicity studies listed in the tables in chapter III.

IX. EFFICACY

1. Efficacy Profile

At the present time, all Federally registered products containing warfarin are considered public health uses and are, therefore, subject to efficacy data requirements (44 FR 2793; May 11, 1979).

2. Factors Influencing Efficacy

a. Warfarin

The effectiveness of individual products containing warfarin and its sodium salt covered by this Standard depends upon many factors (Palmateer, 1974, 05001803; Peardon et. al., 1979 GS0011-112), including: impurities in the technical; contamination of the product with other pesticides during manufacture and storage; type, quality, hardness, and particle size of inerts added to the technical and concentrates; and the test procedures. The efficacy of products with the same percentage of active ingredient can vary dramatically since efficacy is a function of bait acceptance. In addition, pockets of warfarin - resistant Norway rats have been reported in the United States since 1972. The effectiveness of warfarin products can also vary with the training and skill of the applicator, the presence of alternative food sources, and types of harborage. Encapsulation has been developed to obviate the gustatory perception of impurities in the technical material, and thereby serve to improve efficacy.

b. Sulfaquinoxaline

Sulfaquinoxaline was first added to warfarin (such combinations were called Prolin®) in the mid-1960's to increase the effectiveness of that anticoagulant. Supposedly, the addition of this active ingredient helped to kill rats consuming sublethal doses of warfarin (see also theesulfaquinoxaline discussion on II-1 of this standard). Based on the limited data submitted at the time, several additional claims were allowed:

1. "kills hard-to-kill" animals
2. "new improved"
3. "a better more effective Warfarin rodenticide"
4. "Most notable advance in rodenticides since Warfarin"

Within two years, as a result of additional testing, the Agency established a policy of not permitting these claims. Subsequent tests (Palmateer, 1979 GS0011-108), revealed that sulfaquinoxaline had no effect or produced a negative effect upon warfarin efficacy. Based on this information the Agency has declared sulfaquinoxaline to be inert with respect to rodenticidal activity. Registrants will be required to provide additional data establshing the efficacy of sulfaquinoxaline if they desire to retain it in their products as an active ingredient.

3. Use Sites

The current target pests for Federally registered Warfarin products are the Norway rat, house mouse, and roof rats.

Prior to 1976 most warfarin products had the following two statements to describe the use sites:

1. "... locations where rats and mice feed, water, and/or travel."
2. "... along walls, in corners, and in concealed locations..."

Since 1976 these general statements have been clarified by the addition of the following specific sites.

> "In and around homes, industrial and
> agricultural buildings, and similar
> man-made structures and inside of
> transport vehicles (ships, aircraft,
> trains)"

In addition to these sites, the following sites also occur on selected Federal labels: dumps, sewers, river and pond banks, feedlots, rabbitry fur farms, and game bird operations.

The Agency has not attempted to review the vast amount of field and laboratory data recorded in the published literature and in its files over the past 30 years. Since the benefits of this active ingredient are well recognized and since minimum product performance has been regulated through a series of standard laboratory efficacy tests over the past 10 years, a detailed review of data is unnecessary at this time.

4. Summary of Major Data Gaps

As indicated above, the Agency has not attempted to review efficacy data at the present time. The effectiveness of these products will be assured by requiring registrants to submit or cite data on their specific products using the standard protocols. Registrants of end-use products will support both rat and mouse claims. Registrants of technical products will support rat claims only. These data, will be reviewed when they are received.

Since sulfaquinoxaline has been declared to be inert with respect to rodenticidal activity, registrants will be required to provide data to prove the efficacy of sulfaquinoxaline in Warfarin baits if they wish to maintain this chemical as an active ingredient.

X. Bibliography

Guide To Use of this Bibliography

1. Content of Bibliography. This bibliography contains citations of all the studies reviewed by EPA in arriving at the positions and conclusions stated elsewhere in this standard. The bibliography is divided into 3 sections: (1) citations that are discussed in the standard (2) citations examined and judged to be inappropriate for use in developing the standard, and (3) standard reference material. Primary sources for studies in this bibliography have been the body of data submitted to EPA and its predecessor agencies in support of past regulatory decisions, and the published technical literature.

2. Units of Entry. The unit of entry in this bibliography is called a "study". In the case of published materials, this corresponds closely to an article. In the case of unpublished materials submitted to the agency, the Agency has sought to identify documents at a level parallel to a published article from within the typically larger volumes in which they were submitted. The resulting "studies" generallly have a distinct title (or at least a single subject), can stand alone for purposes of review, and can be described with a conventional bibliographic citation. Where applicable the Agency has attempted also to unite basic documents and commentaries upon them, treating them as a single study.

3. Identification of Entries. The entries in this bibliography are sorted by author, date of document, and title. Each entry bears, to the left of the citation proper, an eight- digit numeric identifier. This number is unique to the citations, and should be called the "Master Record Identifier", or "MRID". It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted data; see paragraphy 4(d)(4) below for a further explanation. In a few cases, entries added to the bibliography late in the review may be preceded by a nine-character temporary identifier. This is also to be used whenever a specific reference is needed.

4. Form of the Entry. In addition to the Master Record Identifier (MRID), each entry consists of a bibliographic citation containing standard elements followed, in the case of materials submitted to EPA, by a description of the earliest known submission. The bibliographic conventions used reflect the standards for the American National Standards Institute (ANSI), expanded to provide for certain special needs. Some explanatory notes of specific elements follow:

   a. Author. Whenever the Agency could confidently identify one, the Agency has chosen to show a personal author. When no individual was identified, the Agency has shown as identificable laboratory or testing facility as author. As a last resort, the Agency has shown the first known submitter as author.

b. Document Date. When the date appears as four digits with no question marks, the Agency took it directly from the document. When a four-digit date is followed by a question mark, the bibliographer deduced the date from evidence in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title. This is the third element in the citation. In some cases it has been necessary for the Agency bibliographers to create or enhance a document between square brackets.

d. Trailing Parenthesis. For studies submitted to us in the past, the trailing parenthesis include (in addition to any self-explanatory text) the following elements describing the earliest known submission:

(1) Submission Date. Immediately following the word 'received' appears the date of the earliest known submission, at the time that particular document was processed into the Pesticide Document Management System.

(2) Administrative Number. The next element, immediately following the word 'under' is the registration number, experimental permit number, petition number, or other administrative number associated with the earliest known submission, at the time that particular document was processed into the Pesticide Document Management System.

(3) Submitter. The third element is the submitter, following the phrase 'submitted by'. When authorship is defaulted to the submitter, this element is omitted.

(4) Volume identification. The final element in the trailing parenthesis identifies the EPA accession number of the volume in which the original submission of the study appears. The six-digit accession number follows the symbol 'CDL', standing for "Company Data Library". This accession number is in turn followed by an alphabetic suffix which shows the relative position of the study within the volumns. For example, within accession number 123456, the first study would be 123456-A; the second, 123456-B; the 26th, 123456-Z; and the 27th 123456-AA.

OFFICE OF PESTICIDE PROGRAMS
REGISTRATION STANDARDS BIBLIOGRAPHY

Citations Discussed in This Standard

05003932	Back, N, Steger, R., Glassman, J. (1978) Comparative acute oral toxicity of sodium warfarin and microcrystalline warfarin in the Sprague Dawley rat. Pharm. Res. Comm. 10(5):445-452.
05002456	Billings, T., Hanks, A., Colvin, B. (1976) High-performance liquid chromatographic determination of warfarin. Jour. of the AOAC 59(5):1104-1108.
05002786	Buckelew, A.r., Jr.; Chakravarti, A.; Burge, W.R., Thomas, V.M., Jr., Ikawa, M. (1972) Effect of mycotoxins and coumarins on the growth of Bacillus megaterium from spores. Journal of Agricultural and Food Chem. 20(2):431-433.
05002447	Caissie, G.E.; Mallet, V.N. (1976) The fluorimetric detection of pesticides on aluminum oxide layers. Journal of Chromatography 117(1): 129-136.
GS0011-118	Casarett, L.J., Ph.D. and J. Doull, M.D., Ph.D. 1975. Toxicology. The Basic Science of Poisons. MacMillan Publishing Co., Inc. New York.

00002469 Evans, J.; Ward, A.L. (1967) Secondary Poisoning associated with anticougulant killed nutria. J. of the Am. Vet. Med. Assoc. 151(7): 856-861. (Also in unpublished submission received May 30, 1972 under unknown admin. no; submitted by Velsicol Chem. Corp., Chicago, IL; CDL: 230307-E).

05002245 Fristedt, B;, Sterner, N. (1965) Warfarin intoxication from percutaneous absorption. Arch. Env. Health . 11:205-208

05002272 Gaines, T.B. (1960) The acute toxicity of pesticides to rats. Toxicology and Applied Pharmacology 2: 88-99.

GS0011-122 Gillman, A. G. et al. 1980 Goodman and Gillman's The Pharmacological Basis of Therapeutics, 6th Ed. MacMillan.

05003225 Gore, R.C.; Hannah, R.W.; Pattacini, S.C.; Porro, T.J. (1971) Infrared and ultraviolet spectra of seventy-six pesticides. Journal of the Association of Official Analytical Chemists 54(5): 1040-1052.

GS0011-117 Gosselin, R.E., M.D., Ph.D., H.C. Hodge, Ph.D., Sc., R.P. Smith, Ph.D., M.N. Gleason, M. Sc. (h.c.) 1976. Clinical Toxicology of commerical Products-Acute Poisoning. 4th Ed. The Williams and Wilkins Co., Baltimore, MD p. 317-320.

05005716 Grolleau, G.; Paris, G. (1975) Essais d'intoxication du conard col-vert Anas platyrhynchos a l'aide du coumafene et du chlorophainone. Trials of intoxication of green collared duck Anas platyrhynchos with coumaphene and chlorophacinone. Annales de Zoologie--Ecologie Animales 7(4): 553-556.

05002258 Hagan, E.C.; Radomski, J.I. (1953) The toxicity of 3-(acetonylbenzyl)-4-hydroxycoumarin (Warfarin) to labortory animals. Journal of the American Pharmaceutical Association, Scientific Edition XLII(6): 379-382.

05003388 Holzgreve, W. J.C. Carey, B.D. Hall. 1976. Warfarin induced fetal abnormalities Lancet. 2:914.

05005625 Kamm, G. (1968) Weitere Versuche zum Nachweis von Cumarin - Derivaten ¢Further studies on the identification of coumarin derivatives 1 Arzneimittel - Forschung 18(10): 1336-1337.

05002715 Lau-Cam, C.A. (1978) Thin-layer chromatography of caumarins of medicinal and phytochemical interest on buffered layers. Journal of chromatography 151(3): 391-395.

GS0011-119 Meyers, F.H., M.D., E. Jawetz, M.D.,, Ph.D., and A. Goldfien, M.D. 1978. Review of Medical Pharmacology. 6th Ed. Lange Medical Publications. Los Altos, CA.

05002550 Mundy, D.E.; Quick, M.P.; Machin, A.F. (1976) Determination of Warfarin in animal relicta and feeding stuffs by high - pressure liquid chromatography with confirmation of identity by mass spectrometry. Journal of Chromatography 121(2): 335-342.

GS0011-121 Di Palma, J. 1971. Drill's Pharmacology in Medicine. 4th Ed., McGraw Hill.

05001803 Palmateer, S.D. (1974) Laboratory testing of albino rats with anticoagulant rodenticides. Pages 63-72. In Proceedings--Vertebrate Pest Conference. No. 6

GS0011-108 Palmateer, S.D. (1979) Effects of sulfaquinoxaline in Warfarin baits. A Terrestrial and Aquatic Biology Unit Project. August 1979. U.S. EPA/OPP/BFSD-CBIB.

GS0011-109 Pank, L. (1981) Personnel communication with EEB, HED, OPP personnel.

GS0011-112 Peardon, D.L., J.E. Ware, D.B. Peacock and R.W. Matheny. Test method for evaluating the efficacy of rodenticides against anticogulant-resistant Norway rats. *Vertebrate Pest Control and Management Materials*, ASTM STP 680, J.R. Beck, Ed., American Society for Testing and Materials, 1979 pp. 45-59.

05003303 Penick, S.B.; Inventor (1954) Assignee Manufacture of 4-hydroxycoumarin derivatives. British patent specification 715, 846. Sept. 22. 4 p.

05001734 Pranitis, P.A.F.; Stolman, A. (1975) The differential elution of drugs from XAD-2 resin. Journal of Forensic Sciences 20(4): 726-730

05002773 Rohwer, S.A. (1950) Warfarin a coined name for the anticougulant rodenticidal chemical 3-(alpha-Acetonylbenzyl)-4-hydroxycoumarin. Washington, DC: Bureau ofEntomology and Plant Quarantine (Interdepartmental Committee on Pest Control publication; with attachment: Information on 3-(alpha-phenyl-Beta-Acetylethyl)-4-hydroxycoumarin, K.P. Link).

05001926 Schroeder, C.H.; Link, K.P. inventors; Wisconsin Alumni Research Foundation, assignee (1965) Warfarin alkali mental derivative process U.S. Patent 3,192,232. June 29. 2 p. Cl. 260-343.2.

05002585 Schroeder, C.H.; Sherma, J. (1973) Warfarin. Pages 677-688. °In °Analytical Methods for Pesticides and Plant Growth Regulators. Vol. 7 New York: Academic Press.

00002852 Shapiro, R. (1976) Eye Irritation on Prentox Rax Water Soluble Warfarin: Report No. T-116. (Unpublished study received May 25, 1976 under 655-543; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, NY; CDI: 231461-D).

00002851 Snapiro, R. (1976) Primary Skin Irritation on Warfarin Technical: Report No. T-113. (Unpublished study received May 25, 1976 under 655-543; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, NY; CDI: 231461-C).

00002443 Shapiro, R. (1976) Dermal ID 50- on Warfarin Technical 1: Report No. T-120. (Unpublished study received Nov. 24, 1975 under 655-539 prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, NY; CDL: 231460-J)

00003290 Shapiro, R. (1976) Primary Skin Irritation on Co-Rax Pelleted Bait 1: Report No. T-110. (Unpublished study received May 25, 1976 under 655-539; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, NY; CDL: 231460-N)

00003287 Shapiro, R. (1976) Primary Skin Irritation on Prentox Rax Water Soluble Warfarin 1: Report No. T-109. (Unpublished study received May 25, 1976 under 655-543; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, NY; CDL: 231461-E)

00003288 Shapiro, R. (1976) Eye irritation on Warfarin technical: Report No. T-108 (unpublished study received May 25, 1976 under 655-539; prepared by nutrition International Inc. submitted by Prentis Drug and Chemical Co., Inc. New York, NY; CDL: 231460-K).

00002280 Shapiro, R. (1977) Acute Dermal Toxicity: Warfarin 1: Report No. T-185. (Unpublished study received Aug. 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc., Syracuse, NY; CDL: 231393-A)

00002282 Shapiro, R. (1977) Defined Oral LD_{550}: Warfarin: Report No. T-203. (Unpublished study received Aug. 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway Inc., Syracuse, NY; CDL: 231393-C).

00002430 Shapiro, R. (1977) Eye Irritation: Warfarin: Report No. T-168 (unpublished study received May 13, 1977 under 655-543; prepared by Product Safety Lab. Div. of Nutrition International Inc. for Prentis Drug & Chemical Corp., Inc. submitted by Agway, Inc. Syracuse, NY; CDL: 230861-A).

00002283 Shapiro, R. (1977) Primary Skin Irritation: |Warfarin 1: Report No. T-200. (Unpublished study received Aug. 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International Inc., submitted by Agway, Inc., Syracuse, NY; CDL: 231393-D)

00002281 Shapiro, R. (1977) Oral LD_{50} Screen: Warfarin: Report No. T-179. (Unpublished study received Aug 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc. Syracuse, NY; CDL: 231393-B).

00002284 Shapiro, R. (1977) Modified Draize eye irritation: Warfarin: Report No. T-178. (Unpublished study received Aug. 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc. submitted by Agway, Inc., Syracuse, NY; CDI: 231393-E).

05001853 Shaul, W.L., H. Emery, and J.G. Hall. 1975. Chondrodysplasia punctata and maternal warfarin use during preganancy. Am. J. Dis. Child. 129:360-362.

05002097 Sherman, S. and B.D. Hall. 1976. Warfarin andd fetal abnormality Lancet. 1:692.

05001721 Siek, T.J.; Osieweiz, R.J.; Bath, R.J. (1976) Identification of drugs and other toxic compounds from their ultraviolet spectra - Part III: Ultraviolet absorption properties of 22 structural groups. Journal of Forensic Sciences 21(3): 525-551.

05004094 Stahmann, M.A.; Ikawa, M.; Link, K.P.; inventors; Wisconsin Alumni Research Foundation, assignee (1947) 3-substituted 4-hydroxycoumarin and process of making it. U.S. patent 2,427,578. Sept. 16. 5p. Cl. 260-333.

05005623 Thiemann, K.G.; Newmann, G. (1970) Zumchemisch - toxikologischen Nachweis von Warfarin - Chemical and toxicological identification of Warfarin - 1 Archiv fuer Experimentelle Veterinaermedizin 24(3): 731-733.

00002461 Til, H.P.; Spanjers, M.T.; Sinkeldam, E.J. (1974) Acute and subacute oral toxicity studies with pyranocumarin and Warfarin in cats, hens, and quail: Report No. R-4358. (Unpublished study received June 15, 1977 under 655-539; prepared by Central Institute for Nutrition and Food Research for Schering Ag. submitted by Prentis Drug and Chemical Co., Inc. New York, NY; CDL: 230356-A).

GS0011-110 U.S. EPA (1980) Pesticide data submitters list (September 1980) for Warfarin (Shaughnessy No. 086002) and its sodium salt (Shaughnessy No. 086003).

NA00860E U.S. EPA (1975) Rainbow trout acute toxicity. April 28, 1975. CBIB Labs. Report.

GS0011-113 WARF. 1977. Acute Oral Toxicity. WARF Institute No. 7021801 for Ralston Purina Co., in support of 602-266.

GS0011-114 WARF. 1977. Primary Skin Irritation. WARF Institute No. 7021801 for Ralston Purina Co., in support of 602-266.

GS0011-115 WARF. 1977. Eye Irritation. WARF Institute No. 7021801 for Ralston Purina Co., in support of 602-266.

GS0011-116 WARF. 1977. Acute Dermal Toxicity. WARF Institute No. 7021801 for Ralston Purina Co., in support of 602-266.

GS0011-100 WARF Inst., Hopkins Ag. Chem. Co. 1977. Eye Irritation. Tox-Hid 1/1, Encapsulated Warfarin.

GS0011-101 WARF Inst. 1977. Hopkins Ag. Chem. Co. Skin Irritation, Tox-Hid 1/1, Encapsulated Warfarin.

GS0011-102 WARF Inst. 1977. Hopkins Ag. Chem. Co. Acute Oral LD_{50}, Tox-Hid 1/1-Encapsulated Warfarin.

GS0011-103 WARF Inst. 1977. Hopkins Ag. Chem. Co. Acute Oral LD_{50}. Tox-Hid 1/1-Encapsulated Warfarin.

GS0011-104 WARF Inst. 1977. Hopkins Ag. Chem. Co. Eye Irritation - Warfarin.

GS0011-105 WARF Inst. 1977. Hopkins Ag. Chem. Co. Skin Irritation - Warfarin.

GS0011-106 WARF Inst. 1977. Hopkings Ag. Chem. Co. Acute Oral LD_{50}. Warfarin.

GS0011-107 WARF Inst. 1977. Hopkins Ag. Chem. Co. Acute Oral LD_{50} Warfarin.

05001730 Warkany, J. 1976. Warfarin embryopathy. Teratology. 14:205.

00002438 Wisconsin Alumni Research Foundation (1967) Warfarin Physico-Chemical specifications and analytical procedures. Madison, WI: WARF. (Also in unpublished submission received Nov. 24, 1975 under 655-543; submitted by Prentis Drug & Chemical Co., Inc., New York, NY; CDL: 231461-R).

GS0011-111 Zendzian, R., Ph.D., (1981) Personnal communication with T. Miller on 6/15/81.

GS0011-120 Zendzian, R., Ph., D. (1981) Toxicology data base for warfarin Registration Standard; human data. Memo from Toxicology Branch, HED, OPTS, EPA to T. Miller, SPRD. Dated 8-13-81.

005002621 , inventor; Aktieselskabet Bakteriologisk Laboratorium "Ratin", assignee (1961) Improvements in and relating to a composition for combating rodents, particularly rats and other noxious animals, and a process of preparing the said composition. British patent specification 866,837. May 3. 3 p. Int. Cl. A 01N.

005003303 , inventor; S.B. Penick, assignee (1954) Manufacture of 4-hydroxycoumarin derivatives. British patent specification 715,846. Sep 22. 4 p.

005002628 A.M.A. Council on Pharmacy and Chemistry (1955) Warfarin sodium. Journal of the American Medical Association 159(13):1297-1298.

005005974 A/S Bakteriologisk Laboratorium "Ratin", assignee (1963) Middel til bekaempelse af gnavere, saerlig rotter, og fremgangsmade til fremstilling af midlet. [Means for combating rodents, particularly rats, and method for producing said means.] Danish patent 96491. Oct 7. 3 p. Int. Cl. A 0ln.

005008247 Aarons, L.J.; Schary, W.L.; Rowland, M. (1979) An in vitro study of drug displacement interactions: warfarin-salicylate and warfarin-phenylbutazone. Journal of Pharmacy and Pharmacology 31(5):322-330.

005005701 Abarca Ruano, M. (1959) Combate de la rata canera con cebo de warfarina durante la epoca de secas. [Control of the canefield rat with baited warfarin during the dry weather.] Mexico Agricola 6(70):26-27.

005001890 Abbott, A.; Sibert, J.R.; Weaver, J.B. (1977) Chondrodysplasia punctata and maternal warfarin treatment. British Medical Journal 1:1639-1640.

005001826 Abrams, J. (1964) New aspects of field rodent control. Pages 127-128, In Proceedings--Fifty-first Annual Meeting--Chemical Specialties Manufacturers Association. New York: Chemical Specialties Manufacturers Association.

005002377 Abrams, J.; Hinkes, T.M. (1974) Acceptability and performance of encapsulated warfarin. Pest Control 42(5):14-16.

005005717 Adami, E.; Marazzi Uberti, E.; Turba, C. (1959) Indagine sperimentale e statistica sulla azione analgesica della 4-idrossicumarina. [Experimental and statistical data on the analgesic action of 4-hydroxycoumarin.] Archivio Italiano di Scienze Farmacologiche. [Italian Archives of Pharmacological Science.] 9(1):61-69.

005001893 Adams, C.W.; Pass, B.J. (1960) Extensive dermatitis due to warfarin sodium (coumadin). Circulation XXII(5):947-948.

005001897 Addinall, R.; Curran, D.A. (1973) A prescribing hazard [letter] Medical Journal of Australia 1(5):261.

005005308 Agostino, D. (1970) Prolonged Coumadin treatment as an adjuvant to surgery in an experimental colon carcinoma. Tumori 56(3):165-166,169-173.

005002427 Agostino, D.; Cliffton, E.E. (1962) Anticoagulants and the development of pulmonary metastases: anticoagulant effect on the Walker 256 carcinosarcoma in rats. Archives of Surgery 84:449-453.

005005703 Agostino, D.; Cliffton, E.E. (1963) Il fattore coagulazione nella produzione di metastasi: efficacia della fibrinolisina e dell'eparina. [Blood coagulation and the production of metastases: the effect of fibrinolysin and heparin.] Ospedali d'Italia Chirurgia IX(4):393-406.

005007506 Agostino, D.; Cliffton, E.E. (1967) Contributo allo studio della sindrome emorragica secondaria dopo la somministrazione di anticoagulanti: l'efficacia dell'acido ellagico. [Contribution to the study of the secondary hemorrhagic syndrome following administration of anticoagulants: effectiveness of ellagic acid.] Ospedali d'Italia Chirurgia XVI(5):469-474.

005002087 Agostino, D.; Cliffton, E.E. (1967) The effect of ellagic acid on traumatic bleeding in warfarin treated rats. Pathologia Europaea 2(4):421-426.

005001898 Agostino, D.; Cliffton, E.E. (1968) Control of bleeding in splenectomized and coumadin treated animals: potentiation of ellagic acid effect with vitamin K. Nagoya Journal of Medical Science 14(1):65-73.

005001891 Agostino, D.; Cliffton, E.E.; Girolami, A. (1966) Effect of prolonged Coumadin treatment on the production of pulmonary metastases in the rat. Cancer 19(2):284-288.

005013685 Ahrend, K.F.; Tiess, D. (1973) Duennschichtchromatographische Parameter von 180 wenig fluechtigen organischen Verbindungen toxikologischer Relevanz in vier einfachen Systemen mit Anleitung zur praktischen Nutzung. [Thin-layer chromatographic parameters of 180 toxicologically significant organic compounds with low volatility in four simple systems with instructions for practical application.] Wissenschaftliche Zeitschrift der Universitaet Rostock, Mathematisch-Naturwissenschaftliche Reihe 22(9):951-963.

005001896 Ahuja, S. (1976) Derivatization in gas chromatography. Journal of Pharmaceutical Sciences 65(2):163-182.

005011212 Akazawa, Y., inventor; (1961) 3-(alpha-Fueniru-beta-asechiruechiru)-4-hidorokishikumarin no seizoho. [A method of manufacturing 3-(alpha-phenyl-beta-acetylethyl)-4-hydroxycoumarin.] Japanese kokai 61 6537. Jun 1. 2 p.

005014825 Akopyan, G.S. (1970) Mokhragoiyn hamsterikneri vra zookoimarini adsdeyoithyan haryi shirche. [Concerning the effect of zoocoumarin on gray hamsters.] Zhurnal Eksperimental'noi Klinicheskoi Meditsiny. [Journal of Experimental and Clinical Medicine.] X(3):32-35.

005003284 Al-Bassam, M.S.; Hall, R.J.; Garcia, E.; Leachman, R.D.; Leatherman, L.L.; Hallman, G.L.; Cooley, D.A. (1974) Evaluation of the effects of antithrombotic therapy on survival following aortocoronary bypass surgery. American Journal of Cardiology 33(1):122.

005001889 Al-Gailany, K.A.S.; Wilson, A.G.E.; Bridges, J.W. (1974) Use of fluorescent probes to investigate hepatic microsomal "drug"-binding sites. Biochemical Society Transactions 2(1):113-117.

005015986 Al'ber, G.V. (1976) Gigiyenicheskaya kharakteristika usloviy truda rabotnikov dezinfektsionnoy sluzhby, kontaktiruyushchikh s pestitsidami. [Hygiene characteristics of the working conditions of workers in the extermination service in contact with pesticides.] Zdravookhranenie Kirgizii. [Public Health of Kirgizia.] (2):38-40.

005004898 Alha, A.R.; Mukula, A.L.; Saikkonen, J. (1961) Zum Nachweis von Warfarin bei einem Selbstmordfall. [The proof of the presence of warfarin in a suicide.] Archiv fuer Toxikologie. [Archives of Toxicology.] 19:211-214.

005002417 Allen, W.H. (1954) Studies on the effectiveness of bare ground barriers and warfarin poison against field rodents in Korea (grid trapping method). Medical Bulletin of the U.S. Army Far East 2:34-36.

000002386 Alstott, K.A. (1973) RMC Rodent Bait: (Mice) [and (Rats): Efficacy and Acceptability Data]. (Unpublished study received Feb 7, 1973 under 7276-1; submitted by RMC Products Co., Fort Dodge, Iowa; CDL:026496-A)

000002302 Alstott, K.A. (1974) Laboratory Report: [Warfarin]: Bait Feeding Acceptance Study: [Mice]. (Unpublished study received Jun 4, 1974 under 7276-16; submitted by RMC Products Co., Fort Dodge, Iowa, CDL:009131-A)

000002309 Alstott, K.A. (1974) Laboratory Report: [Warfarin]: Bait Feeding Acceptance Study: [Rats]. (Unpublished study received Jun 4, 1974 under 7276-17; submitted by RMC Products Co., Fort Dodge, Iowa; CDL:024309-A)

000002310 Alstott, K.A. (1974) Laboratory Report: Bait Feeding Acceptance Study: [Mice]. (Unpublished study received Jun 4, 1974 under 7276-17; submitted by RMC Products Co., Fort Dodge, Iowa; CDL: 024309-B)

005002376 Amador, E. (1965) Adrenal hemorrhage during anticoagulant therapy: a clinical and pathological study of ten cases. Annals of Internal Medicine 63(4):559-571.

005001712 Amann, A.H. (1973) Effect of formulation on dissolution of sodium warfarin tablets. Journal of Pharmaceutical Sciences 62(9):1573-1574.

005001894 Ambre, J.J.; Fischer, L.J. (1973) Effect of coadministration of aluminum and magnesium hydroxides on absorption of anticoagulants in man. Clinical Pharmacology and Therapeutics 14(2):231-237.

005018099 Anaya, R.M.; Carrera, B. (1977) Determinacion de residuos de warfarina en bovinos tratados con Vampirinip III. [Determination of warfarin residues in cattle treated with Vampirinip III.] Tecnica Pecuaria en Mexico 33:74-78.

005001352 Anderson, B.S. (1974) Infrared analysis of pesticides. Canadian Journal of Spectroscopy 19(2):37-39.

005002434 Anderson, G.F. (1967) The distribution of warfarin (Coumadin) in the rat. Thrombosis et Diathesis Haemorrhagica 18:754-758.

005002022 Anderson, G.F. (1967) The distribution of warfarin (coumadin) in the rat. Thrombosis et Diathesis Haemorrhagica 18(3/4):754-758.

005001888 Anderson, G.F.; Barnhart, M.I. (1964) Prothrombin synthesis in the dog. American Journal of Physiology 206(5):929-938.

005007490 Anderson, P.O. (1979) Drugs and breast feeding. Seminars in Perinatology 3(3):271-278.

005002021 Andreasen, P.B.; Vesell, E.S. (1974) Comparison of plasma levels of antipyrine, tolbutamide, and warfarin after oral and intravenous administration. Clinical Pharmacology and Therapeutics 16(6):1059-1065.

005001887 Andress, M. (1971) Submucosal haematoma of the oesophagus due to anticoagulant therapy: report of a case. Acta Radiologica, Diagnosis 11(2):216-219.

005001899 Andrews, R.V.; Belknap, R.W. (1975) An effective application of U-5897 to the control of established, feral rats. Part I. Nebraska Medical Journal 60(2):46-48.

005002624 Anon. (1952) Insecticides and rodenticides: 1952 recommendations for use. Public Health Reports 67(5):455-458.

005010034 Anon. (1964) Pregled sredstava za zastitu bilja u Jugoslaviji. [Survey of products for the plant protection in Yugoslavia.] Biljna Zastita 8(8/10):177-220.

005001671 Anon. (1965) Fumigants, insecticides, rodenticides. Pages 1-3, In Chemical Evaluation and Control Fact Sheet. Washington, D.C.: U.S. Department of Agriculture, Meat InspectionDivision, Consumer and Marketing Service.

005002248 Anon. (1965) Inherited resistance to warfarin. British Medical Journal 1:5.

005002197 Anon. (1966) Rats become resistant to anticoagulants. WHO Chronicle 20(1):29-31.

005001713 Anon. (1969) Beetles, birds and rats. Nature 223(5205):444.

005002127 Anon. (1969) Control of Farm Rats and Mice with Anticoagulant Poisons. Pinner, Middlesex, England: Ministry of Agriculture,Fisheries and Food. (Great Britain, Ministry of Agriculture, Fisheries and Food advisory leaflet 516)

005002386 Anon. (1970) Drug interactions. Archives of Internal Medicine 126(4):572-573.

005002125 Anon. (1970) Rats march on. Nature 227(265):1289.

005002040 Anon. (1970) Super rats. British Medical Journal 3(725):723.

005002440 Anon. (1970) Warfarin-resistant rats. Royal Society of Health Journal 90(6):289.

005001845 Anon. (1970) Warfarin-resistant rats. Lancet 1(7654):987-988.

005003088 Anon. (1971) Public health pesticides. Pest Control 39(3):13-16,19-22,24,26,28-30,32,34,36,38,40,42,44-47,50.

005002445 Anon. (1972) Chloral hydrate and oral anticoagulants. Lancet 1(749):524.

005004172 Anon. (1973) Common names of pesticides. Revised list--February 1973. PANS 19(2):287-306.

005001979 Anon. (1974) Warfarin and quinalbarbitone. Australian Journal of Pharmacy 55(654):448,455.

005010319 Anon. (1975) Diminution par la rifampicine de l'action anticoagulante par la warfarine. [Diminution by rifampicin of warfarin's anticoagulant action.] Semaine des Hopitaux Therapeutique 51(10):580.

005002813 Anon. (1975) Rats today. British Medical Journal 2(5963):105-106.

005006756 Anon. (1976) Case records of the Massachusetts General Hospital: weekly clinicopathological exercises: case 49-1976. New England Journal of Medicine 295(23):1309-1313.

005019403 Anon. (1978) Mode of antagonism of vitamin K by anticoagulants. Nutrition Reviews 36(9):289-291.

005007488 Anon. (1979) Clinical implications of Surgeon General's Report on Smoking and Health. Journal of the National Medical Association 71(7):713-715.

005003631 Anon. (1979) Warfarin's mystery hold over hives. Medical World News 20(5):41.

005002196 Antlitz, A.M.; Mead, J.A., Jr.; Tolentino, M.A. (1968) Potentiation of oral anticoagulant therapy by acetaminophen. Current Therapeutic Research, Clinical and Experimental 10(10):501-507.

005001895 Antlitz, A.M.; Tolentino, M.; Kosai, M.F. (1968) Effect of butabarbital on orally administered anticoagulants. Current Therapeutic Research, Clinical and Experimental 10(2):70-73.

005002518 Arafa, M.S.; Nasr, N.T.; Salit, A.H.; Khalil, M.S. (1974) A comparative study of slow and quick-acting rodenticides in a confined area in Egypt. International Pest Control 16(5):17-18.

005009943 Araki, T.; Kihira, M.; Nagaoka, R.; Muramoto, A.; Hamanaka, S. (1955) [On the relation between the concentration of 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin in the rat's blood by baiting and the lethality.] Osaka Shiritsu Daigaku Igaku Zasshi. [Journal of the Osaka City Medical Center.] 4:298-300.

005001892 Armstrong, W. (1959) The determination of warfarin in rodenticides. Chemistry and Industry 5:154-155.

005005704 Arnaud, Y.; Boiron, C.; Carlier, A.; Fussellier, M.; Guyonnet, G.; Le Perdriel, F.; Rebiere, J.P. (1976) Incompatibilites des solutes injectables. [Incompatibilities of injectable solutions.] R. Sciences et Techniques Pharmaceutiques 5(3):145-147,149.

005002088 Aronson, A.L. (1972) Chemical poisonings in small animal practice. Veterinary Clinics of North America 2(2):379-395.

005002086 Arora, R.B.; Mathur, C.N. (1963) Relationship between structure and anticoagulant activity of coumarin derivatives. British Journal of Pharmacology 20(1):29-35.

005005629 Arrigo Reina, R. (1975) Richerche sperimentali sull'attivita iperprotrombinemizzante di un derivato isocumarinico: antagonismo verso un anticoagulante dicumarolico (Warfarin). [Experimental research on hyperprothrombinemic activity of an isocoumarin derivative: antagonism towards a dicoumarol anticoagulant (warfarin).] Farmaco, Edizione Scientifica. [Drugs, Scientific Edition.] 30(12):947-954.

005005711 Arrigo Reina, R.; Scoto, G.M. (1974) Sull'effetto antagonista di un derivato isocumarinico (allilamide dell'acido 4-fenil-3-isocumarinico) verso l'attivita' anticoagulante della 3-(alpha-acetonil-benzil)-4-idrossicumarina. [Antagonistic effect of an isocoumarine derivative (4-phenyl-3-isocoumarine acid allylamide) on the anticoagulant action of 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin.] Bollettino della Societa Italiana di Biologia Sperimentale. [Bulletin of the Italian Society of Experimental Biology.] 50(15):1207-1211.

000014337 Ashton, A.D.; Jackson, W.B.; McComber, J. (1979) A Toxic Choice Test on Domestic Norway Rats (Rattus norvegicus) with Hobby's Sample 1 (.025%) and EPA Placebo. (Unpublished study including letters dated Apr 12, 1979 from W.B. Jackson to Howard E. Habegger and Jun 25, 1979 from A.D. Ashton and W.B. Jackson to Product Manager 16, Registration Div., U.S. Environmental Protection Agency, received Jun 5, 1979 under 7537-2; prepared by Bowling Green State Univ., Environmental Studies Center, submitted by Monroe Grain & Supply, Inc., Monroe, Ind.; CDL: 238611-A)

005001714 Ashworth, B. (1972) Poisons and domestic pets [letter] Veterinary Record 90:196.

005002089 Ashworth, B. (1973) The frequency of animal poisoning by warfarin. Veterinary Record 93(2):50.

005000131 Ashworth, R.B. (1973) Pesticides in public health. Chemistry and Industry (London) 14:691-693.

005013945 Atkins, C.E.; Johnson, R.K. (1975) Clinical toxicities of cats. Veterinary Clinics of North America 5(4):623-652.

005002784 Babb, R.R.; Spittell, J.A., Jr.; Bartholomew, L.G. (1965) Hematoma of the rectus abdominis muscle complicating anticoagulant therapy. Mayo Clinic Proceedings 40(10):760-765.

000002408 Bach, C.J. (1949?) Report of Field Trial with Compound 42. (Unpublished study received Apr 1, 1952 under 3282-6; prepared by Wisconsin Alumni Research Foundation, submitted by d-Con Co., Inc., New York, N.Y.; CDL:008783-D)

005002481 Bachmann, K.; Shapiro, R. (1977) Protein binding of coumarin anticoagulants in disease states. Clinical Pharmacokinetics 2(2):110-126.

005002633 Bachmann, K.; Tarloff, J. (1977) Influence of 3,4-benzo(alpha)pyrene on warfarin hypoprothrombinemia and disposition in the rat. Toxicology and Applied Pharmacology 42(1):157-165.

005006758 Bachmann, K.A. (1973) Phenylbutazone and warfarin: aspects of their interaction in the dog. Dissertation Abstracts International B 34(8):3956.

005002936 Bachmann, K.A. (1974) Rapid determination of the concentration of unbound warfarin in human plasma. Research Communications in Chemical Pathology and Pharmacology 9(2):379-382.

005002603 Bachmann, K.A.; Burkman, A.M. (1974) Topical application of a chlordane containing ectoparasiticide: effect on plasma half-life of warfarin in dogs. Pharmacologist 16(2):284.

005003819 Bachmann, K.A.; Burkman, A.M. (1975) Phenylbutazone-warfarin interaction in the dog. Journal of Pharmacy and Pharmacology 27(11):832-836.

005002935 Bachmann, K.A.; Burkman, A.M.; Feller, D.R. (1976) Effect of phenylbutazone on the metabolic disposition of warfarin in the dog. Research Communications in Chemical Pathology and Pharmacology 14(4):747-750.

005003932 Back, N.; Steger, R.; Glassman, J.M. (1978) Comparative acute oral toxicity of sodium warfarin and microcrystalline warfarin in the Sprague-Dawley rat. Pharmacological Research Communications 10(5):445-452.

005007637 Bahadir, I.; James, E.C.; Fedde, C.W. (1977) Soft tissue necrosis and gangrene complicating treatment with the coumarin derivatives. Surgery, Gynecology and Obstetrics 145(4):497-500.

005003312 Bai, K.M; Krishnakumari, M.K.; Majumder, S.K. (1978) Toxicity of calciferol, warfarin and their combinations to Rattus norvegicus (albino) and R. rattus . Pesticide Science 9(1):44-50.

005003822 Bailey, C.J.; Atkins, T.W.; Matty, A.J. (1976) Effect of sodium warfarin on plasma insulin estimations. General Pharmacology 7(1):63-65.

005007800 Bailey, D.N. (1978) Evaluation of drug interferences in the ultraviolet spectrophotometric analysis of plasma theophylline. Journal of Analytical Toxicology 2(3):94-97.

005020069 Bailey, R.R.; Reddy, J. (1980) Potentiation of warfarin action by sulphinpyrazone [letter]. Lancet 1(8162):254.

005002952 Baker, H.; Levene, G.M. (1969) Drug reactions V: cutaneous reactions to anticoagulants. British Journal of Dermatology 81(3):236-238.

005003221 Baliah, T.; Drummond, K.N. (1972) The effect of anticoagulation on serum sickness nephritis in rabbits. Proceedings of the Society for Experimental Biology and Medicine 140(1):329-335.

005004103 Bang, N.U.; O'Doherty, G.O.P.; Barton, R.D. (1975) The effect of 6-subtituted imidazo(4,5-b)pyridines on vitamin K-dependent procoagulants in dogs, warfarin-sensitive and resistant rats. Thrombosis et Diathesis Haemorrhagica 34(3):911.

005003824 Baragar, F.D.; Smith, T.C. (1978) Drug interaction studies with sodium meclofenamate (Meclomen). Current Therapeutic Research, Clinical and Experimental. Supplement 23(4):51-59.

005012652 Baril, M.; Chakrabarti, S.; Brodeur, J. (1978) The influence of mercury on anticoagulant response and distribution of warfarin in rats [abstract no. 960]. Federation Proceedings 37(3):394.

005002634 Baril, M.; Chakrabarti, S.K.; Brodeur, J. (1978) Enhancement of the anticoagulant response to warfarin in mercuric chloride-treated rats. Toxicology Letters 2(2):85-89.

005003098 Barker, W.M.; Hermodson, M.A.; Link, K.P. (1969) The metabolism of 4-14C-warfarin sodium by the rat. Federation Proceedings 28(2):290.

005002257 Barker, W.M.; Hermodson, M.A.; Link, K.P. (1970) The metabolism of 4-C14-warfarin sodium by the rat. Journal of Pharmacology and Experimental Therapeutics 171(2):307-313.

005004113 Barquet, A.; Davies, J.E.; Davis, J.H. (1968) Death due to Parathion. Exhumation of an embalmed body. Clinical Toxicology 1(3):257-263.

005007096 Barr, M., Jr.; Burdi, A.R. (1976) Warfarin-associated embryopathy in a 17-week-old abortus. Teratology 14(2):129-134.

005018691 Barrenechea O., E.; De Anda, L.D.; Flores-Crespo, R. (1977) Determinacion de la edad minima del ganado bovino en que se puede aplicar simultaneamente el Vampirinip III con la vacuna V-319/Acatlan y de la posible interferencia entre ambos productos. [Minimum age of a bovine herd in which to determine the effect of the simultaneous application of Vampirinip III and V-319 rabies vaccine and the possible interference between both products.] Tecnica Pecuaria en Mexico 33:84-93.

005003970 Barrette, J.P.; Payfer, R. (1964) Gas chromatographic analysis of pesticide formulations. Journal of the Association of Official Agricultural Chemists 47(2):259-264.

005004405 Barry, B.W.; Braybrooks, M.P. (1975) Influence of a mucin model system upon the bioavailability of phenylbutazone and warfarin sodium from the small intestine. Journal of Pharmacy and Pharmacology. Supplement 27:74.

005019058 Bartle, B.; Paton, T. (1978) Effect of drugs during pregnancy. On Continuing Practice 5(4):9-15.

005010320 Barton, G.M.G. (1976) The detection of drugs. Update 12(6):597-598,600,602,604.

005011378 Basu, S.N. (1974) Hazards of drug therapy. Armed Forces Medical Journal, India 30(3):93-95.

005002933 Bateman, J.K. (1960) "Warfarin poisoning at Derby Stadium"--a different interpretation [letter]. Veterinary Record 72(10):192-193.

005002932 Bateman, J.K. (1960) Warfarin poisoning at Derby Stadium [letter]. Veterinary Record 72(14):274-275.

005014851 Bates, J.F. (1960) Rodent control in sugar cane in British Guiana. Pages 61-67, In Proceedings of the Meeting of the West Indies Sugar Technologists. Bridgetown, Barbados: West Indies Sugar Association.

005004581 Baumgarten, A.; Wilhelm, D.L. (1969) Vascular permeability responses in hypersensitivity: I. The tuberculin reaction. Pathology 1(4):301-315.

005006886 Bayne, J.M.; Harris, R.; Shah, V.R. (1968) Rat control in a town with anti-coagulant--Rodafarin. Bulletin of Grain Technology VI(4):224-226.

005005705 Beck, H.; Vignalou, J. (1975) Pharmacocinetique des medicaments chez les personnes agees. [Pharmacokinetics of drugs in the elderly.] Therapie 30(3):331-338.

005000455 Becker, K. (1971) Can domestic animals be poisoned with coumarin. Der Praktische Schaedlingsbekaempfer 23(4): 33-36.

005002708 Becker, M.H.; Genieser, N.B.; Finegold, M.; Miranda, D.; Spackman, T. (1975) Chondrodysplasia punctata: is maternal warfarin therapy a factor. American Journal of Diseases of Children 129(3):356-359.

000002453 Bell Laboratories (1974) Report: [Rodenticide Acceptability: Penick Toxicant CW 5-574]. (Unpublished study including product analysis report, received Aug 13, 1974 under 432-538; submitted by Penick Corp., Lyndhurst, N.J.; CDL:009825-C)

000002352 Bell Laboratories (1975) Report: Ferret Rat & Mouse Bait. (Unpublished study received Jul 21, 1975 under 6383-1; submitted by Ferret Laboratories, Slinger, Wis.; CDL:127901-A)

005019170 Bell, R.G. (1978) Metabolism of vitamin K and prothrombin synthesis: anticoagulants and the vitamin K-epoxide cycle. Federation Proceedings 37(12):2599-2604.

005003321 Bell, R.G.; Caldwell, P.T. (1973) Mechanism of warfarin resistance. Warfarin and the metabolism of vitamin K. Biochemistry 12(9):1759-1762.

005002247 Bell, R.G.; Matschiner, J.T. (1969) Intracellular distribution of vitamin K in the rat. Biochimica et Biophysica Acta 184(3):597-603.

005001757 Bell, R.G.; Matschiner, J.T. (1969) Synthesis and destruction of prothrombin in the rat. Archives of Biochemistry and Biophysics 135(1/2):152-159.

005002872 Bell, R.G.; Sadowski, J.A.; Matschiner, J.T. (1972) Mechanism of action of warfarin. Warfarin and metabolism of vitamin K_1. Biochemistry 11(10):1959-1961.

005007103 Bell, W.R. (1977) Hematologic abnormalities in pregnancy. Medical Clinics of North America 61(1):165-199.

005002478 Belpaire, F.M.; Bogaert, M.G.; Mussche, M.M. (1977) Influence of acute renal failure on the protein binding of drugs in animals and in man. European Journal of Clinical Pharmacology 11(1):27-32.

005005706 Benchev, I. (1975) Khromatografsko razdeliane i spektrofotometrichno opredeliane na rodentitsida ratron vuv vuzdukha. [Chromatographic separation and spectrophotometric determination of the rodenticide ratron in air.] Higiena i Zdraveopazvane. [Hygiene and Sanitation.] XVIII(1):90-94.

000002853 Benson, B. (1972) Acceptability and Mortality Rat Bait Test: McConnon Mouse-Rid: [Albino Rats]. Includes undated method. (Unpublished study received Nov 21, 1972 under 404-317; submitted by McConnon & Co., Winona, Minn.; CDL:008489-A)

000003294 Benson, B. (1972) Acceptability and Mortality Rat Bait Test: McConnon Rat-O-Mice: [Albino Rats]. Includes undated method. (Unpublished study received Nov 21, 1972 under 404-118; submitted by McConnon & Co., Winona, Minn.; CDL:220935-A)

000002351 Benson, B. (1973) [Rat Bait Improvement Tests: Warfarin]. (Unpublished study received Dec 19, 1973 under 5887-51; prepared by Mackwin Co., submitted by Black Leaf Products Co., Elgin, Ill.; CDL:022488-A)

000002350 Benson, B. (1973) [Rat Bait Improvement Tests: Warfarin]. (Unpublished study received Apr 2, 1973 under 5887-51; prepared by Mackwin Co., submitted by Black Leaf Products Co., Elgin, Ill.; CDL:022490-A)

000002349 Benson, B. (1973) Acceptability and Mortality Rat Bait Test: Black Leaf Warf. (Unpublished study received Feb 26, 1973 under 5887-51; submitted by Black Leaf Products Co., Elgin, Ill.; CDL: 022489-A)

000002445 Benson, B. (1973) Efficacy & Acceptability Test on (House) Mice: [McConnon Mouse-Rid]. (Unpublished study received Jun 22, 1973 under 404-317; submitted by McConnon & Co., Winona, Minn.; CDL: 008489-B)

005002068 Bentley, E.W. (1958) Biological Methods for the Evaluation of Rodenticides. London: Her Majesty's Stationery Office. (Ministry of Agriculture, Fisheries and Food technical bulletin no. 8)

005003306 Bentley, E.W. (1967) The control of rodents. WHO Chronicle 21(9):363-368.

005016313 Bentley, E.W. (1970) Development in methods for the control of rodents. Public Health (Johannesburg) 70(9):387,389,391.

005002403 Bentley, E.W. (1972) A review of anticoagulant rodenticides in current use. Bulletin of the World Health Organization 47(3):275-280.

005002433 Bentley, E.W.; Hammond, L.E.; Taylor, E.J. (1955) The comparative toxicity of 0.025 per cent and 0.005 per cent warfarin to*Rattus norvegicus. Plant Pathology 4(4):120-123.

005003331 Bentley, E.W.; Larthe, Y. (1959) The comparative rodenticidal efficiency of five anti-coagulants. Journal of Hygiene 57(2):135-149.

005016198 Bentley, X. (1969) Warfarin-Resistenz. [Warfarin resistance.] Staedtehygiene 20(8):201.

005018590 Bentz, H.; Kuehnert, M. (1959) Zur Vergiftung durch Cumarinderivate und deren Nachweis. [Poisoning by, and determination of coumarin derivatives.] Monatshefte fuer Veterinaermedizin, Sonderheft 1959:26-28.

005006757 Benya, T.J. (1975) Warfarin studies. Dissertation Abstracts International B 35(7):3423.

005003652 Benya, T.J.; Adler, D.S.; Bates, T.R. (1976) Warfarin. Journal of the American Pharmaceutical Association 16(5):271-274.

005002869 Benya, T.J.; Wagner, J.G. (1975) Rapid equilibration of warfarin between rat tissue and plasma. Journal of Pharmacokinetics and Biopharmaceutics 3(4):237-255.

005004111 Benya, T.J.; Wagner, J.G. (1976) Warfarin binding components of rat liver microsomes--linear and nonlinear. Canadian Journal of Pharmaceutical Sciences 11(2):69-70.

005004112 Benya, T.J.; Wagner, J.G. (1976) Warfarin sensitivity to air and light during thin layer chromatography. Canadian Journal of Pharmaceutical Sciences 11(2):70-71.

000002403 Berg, A.; Harfst, L. (1973) Rodenticide Bait Test: [Rat Control Pellet]. (Unpublished study received Jul 2, 1973 under 602-234; submitted by Ralston Purina Co., St. Louis, Mo.; CDL:023524-A)

000002849 Berg, A.J.; Harfst, L.G. (1973) Rodenticide Bait Test: [Warfarin against Wild House Mice and Wild Norway Rats]. (Unpublished study including summary report, received Dec 5, 1974 under 602-253; submitted by Ralston Purina Co., St. Louis, Mo.; CDL: 028549-B)

005003130 Berg, D.H. (1964) Biochemical studies on warfarin: Part I. The disposition of 4-C14-warfarin in the rat. Normal and adrenalectomized rats. Dissertation Abstracts International B 24(10):4228.

005003823 Bergqvist, D.; Arfors, K.E. (1974) Influence of fibrinolysis and coagulation on haemostatic plug formation. An experimental study in rabbits. Thrombosis Research 4(2):345-360.

005003593 Bergstrom, S. (1971) Abortion effect of 3-(acetonylbenzyl)-4-hydroxycoumarin (warfarin) in mice. Contraception 3(4):279-283.

005002709 Berkarda, B.; Marrack, P.; Kappler, J.W.; Bakemeier, R.F. (1978) Effects of warfarin administration on the immune response of mice. Arzneimittel-Forschung 28(8):1407-1410.

005002944 Bernacki, R.J.; Bosmann, H.B. (1970) Warfarin and vitamin K accelerate protein and glycoprotein synthesis in isolated rat liver mitochondria in vitro. Biochemical and Biophysical Research Communications 41(2):498-505.

005006243 Bernard, J. (1957) Essais d'intoxication du petit campagnol au coumafene et a la scille. [Tests of poisoning of the small field mouse with coumafene and scilla.] Mededelingen van de Landbouwhogeschool en de Opzoekingsstations van de Staat te Gent. [Communications of the Agricultural University and the State Research Station at Ghent.] 22(3):481-492.

005007461 Bernard, J.L.; Heronce, B.; Vaur, J.L.; Nory, J. (1975) Hematomes des muscles droits de l'abdomen compliquant un traitement anticoagulant (a propos de 4 observations). [Hematoma of the right muscles of the abdomen complicating anticoagulant therapy (4 cases).] Revue de Medecine de Tours 9(9):1469-1470,1473-1476.

005003936 Bernstein, D.L.; Thompson, G.A (1975) Drug-altered warfarin anticoagulation. Drug Therapy 5:95-98,103-105.

005011376 Berry, C.L. (1978) Drugs and the developing skeleton. Investigation in Cell Pathology 1(2):129-137.

005004114 Bessman, J.D.; Johnson, R.K. (1975) Erythrocyte volume distribution in normal and abnormal subjects. Blood 46(3):369-379.

005006284 Best, B. (1953) Suspected warfarin poisoning in a foxhound puppy. Irish Veterinary Journal 7:256.

Reproduced from best available copy.

005007507 Bezuglyi, V.P.; Kaskevich, L.M.; Komarova, L.I. (1976) Tsirroz pecheni kak sledstvie dlitel'nogo vozdeistviya pestitsidov. [Cirrhosis of the liver due to prolonged exposure to pesticides.] Vrachebnoe Delo. [Medical Profession.] (3):142-145.

005002978 Bianchine, J.R.; Couri, D. (1977) Management of the drug overdose patient. II. Specific antidotes. Ohio State Medical Journal 73(7):451-452.

005002048 Biezunski, N. (1970) Action of warfarin injected into rats on protein synthesis in vitro by liver microsomes as related to its anticoagulating action. Biochemical Pharmacology 19(9):2645-2652.

005002456 Billings, T.J.; Hanks, A.R.; Colvin, B.M. (1976) High-performance liquid chromatographic determination of warfarin. Journal of the Association of Official Analytical Chemists 59(5):1104-1108.

005007114 Birkett, D.J. (1974) Interaction of some drugs, metal ions, and alcohols with rat liver microsomes as studied with a fluorescent probe. Clinical and Experimental Pharmacology and Physiology 1(5):415-427.

005005311 Bishop, J.A.; Hartley, D.J. (1976) The size and age structure of rural populations of Rattus norvegicus containing individuals resistant to the anticoagulant poison warfarin. Journal of Animal Ecology 45(3):623-646.

005002476 Bishop, J.A.; Hartley, D.J.; Partridge, G.G. (1977) The population dynamics of genetically determined resistance to warfarin in Rattus norvegicus from mid Wales. Heredity 39(3):389-393.

005002636 Bjornsson, T.D.; Blaschke, T.F. (1978) Vitamin K_1 disposition and therapy of warfarin overdose [letter]. Lancet 2(8094):846-847.

005003313 Bjornsson, T.D.; Blaschke, T.F.; Meffin, P.J. (1977) High-pressure liquid chromatographic analysis of drugs in biological fluids I: warfarin. Journal of Pharmaceutical Sciences 66(1):142-144.

005002643 Bjornsson, T.D.; Meffin, P.J.; Blaschke, T.F. (1977) Interaction of clofibrate with warfarin. I. Effect of clofibrate on the disposition of the optical enantiomorphs of warfarin. Journal of Pharmacokinetics and Biopharmaceutics 5(5):495-505.

005002483 Bjornsson, T.D.; Meffin, P.J.; Blaschke, T.F. (1977) Interaction of clofibrate with warfarin: studies using radiolabeled vitamin K*1. Clinical Pharmacology and Therapeutics 21(1):99.

005019171 Bjornsson, T.D.; Meffin, P.J.; Swezey, S.; Blaschke, T.F. (1979) Clofibrate displaces warfarin from plasma proteins in man: an example of a pure displacement interaction. Journal of Pharmacology and Experimental Therapeutics 210(3):316-321.

005019174 Bjornsson, T.D.; Meffin, P.J.; Swezey, S.E.; Blaschke, T.F. (1979) Effects of clofibrate and warfarin alone and in combination on the disposition of vitamin K_1. Journal of Pharmacology and Experimental Therapeutics 210(3):322-326.

005004121 Black, M. (1970) Drugs and the liver. Transactions of the Medical Society of London 86:81-86.

005002782 Blake, T.M.; Wood, E.G., Jr.; O'Moore, D.; Neel, R.G. (1962) The vasodilating effects of coumarin derivatives. American Journal of the Medical Sciences 243(5):598-602.

005011372 Blanchard, J.; Tozer, T.N.; Sorby, D.L.; Tuck, L.D. (1975) Investigation of drug-albumin interactions using spin-labeled bovine serum albumin. Molecular Pharmacology 11(2):133-143.

Reproduced from best available copy.

005007802 Blank, H. (1967) The actions and interactions of drugs: the therapeutic significance of enzyme induction. Transactions of the St. Johns Hospital Dermatological Society 53(1):1-23.

005002482 Blaschke, T.F. (1977) Protein binding and kinetics of drugs in liver diseases. Clinical Pharmacokinetics 2(1):32-44.

005005707 Blatrix, C.; Charonnat, S.; Tillement, J.P.; Israel, J.; Brevet, J.P.; Debraux, J.; Merlin, M. (1968) Metabolisme chez l'homme du derive de la 4-hydroxycoumarine: 3(alpha-acetonyl-p-nitrobenzyl) 4-hydroxycoucumarine (sintrom). [Metabolism in man of a derivative of 4-hydroxycoumarin: 3(alpha-acetonyl-p-nitrobenzyl) 4-hydroxycoumarin (sintrom).] Revue Francaise d'Etudes Cliniques et Biologiques XIII:984-995.

005005635 Blatrix, C.; Tillement, J.P.; Israel, J.; Charonnat, S. (1968) Metabolisme des antivitamines K. [Metabolism of antivitamins K.] Revue Francaise d'Etudes Cliniques et Biologiques XIII(6):568-574.

005003323 Bloomfield, D.K. (1970) Fetal deaths and malformations associated with the use of coumarin derivatives in pregnancy: a critical review. American Journal of Obstetrics and Gynecology 107(6):883-888.

005002454 Bloomfield, D.K.; Rubinstein, L.I. (1969) Mitral-valve prosthesis, warfarin anticoagulation, and pregnancy. Lancet 2(7615):290-291.

005002452 Blumberg, H.; Dayton, H.B.; Gordon, S.M. (1958) Bronchodilator action of the anticoagulant warfarin sodium. Science 127(3291):188.

005006891 Blumberg, H.; Dayton, H.B.; Gordon, S.M. (1960) Effect of warfarin (Coumadin) sodium administration during lactation on blood coagulation of nursling rats. Proceedings of the Society for Experimental Biology and Medicine 105(1):35-38.

005004336 Boddie, G.F.; Burgess, J.W. (1953) Suspected warfarin poisoning in a collie bitch. Veterinary Record 65(25):398-399.

005002453 Bofinger, M.K.; Warkany, J. (1976) Warfarin and fetal abnormality [letter]. Lancet 1(7965):911.

005011219 Bogue, R.J. (1954) Warfarin poisoning. Veterinary Medicine 18(3):42.

005002850 Bohosiewicz, M. (1963) Srodki deratyzacyjne i owadobojcze jako zrodlo zatruc wsrod zwierzat domowych. [Rodenticides and insecticides as a source of intoxication of domestic animals.] Medycyna Weterynaryjna. [Veterinary Medicine.] XIX(3):125-129.

005018607 Bolokhovets, M.F. (1977) Raspredelenie zookumarina v organizme zhivotnykh. [Distribution of zoocoumarin in animals.] Trudy, Vsesoyuznyi Nauchno-Issledovatel'skii Institut Veterinarnoi Sanitarii. [Transactions, All-Union Scientific Research Institute of Veterinary Sanitation.] 59:78-83.

005005708 Bolokhovets, M.F. (1978) Diagnostika otravlenni zookumarinom. [Diagnosis of zoocoumarin poisoning.] Veterinariya. [Veterinary Science.] (7):89-91.

005006271 Bolokhovets, M.F.; Ermakov, V.V.; Trakhanov, D.F. (1977) Sposoby opredeleniya zookumarina. [Methods of determining zoocoumarin.] Veterinariya (Moscow). [Veterinary Science.] (6):106-109.

005003310 Bonnet, D.D.; Gross, B. (1953) Susceptibility of *Rattus hawaiiensis Stone to warfarin. Science 118:44-45.

005002121 Bonnet, D.D.; Mau, E.S.C.; Gross, B. (1951) Cage tests with warfarin on the Hawaiian rat, Rattus hawaiiensis Stone, and the house mouse, Mus musculus Linn., in Hawaii. Public Health Reports 66(52):1734-1737.

005003314 Borga, O.; Juhlin-Dannfeldt, A.; Dahlqvist, R. (1978) Plasma levels and protein binding of phenytoin during exercise in man: the effect of elevated free fatty acids. Pharmacology 16(1):37-43.

005016272 Borgmann, W. (1952) Zur Toxikologie neuerer Rattenbekaempfungsmittel. [The toxicology of the newer rodenticides.] Zeitschrift fuer Hygienische Zoologie und Schaedlingsbekaempfung 40:193-201.

005007106 Borle, A.B. (1972) Kinetic analysis of calcium movements in cell culture. V. Intracellular calcium distribution in kidney cells. Journal of Membrane Biology 10(1):45-66.

005007105 Borle, A.B. (1975) Regulation of cellular calcium metabolism and calcium transport by calcitonin. Journal of Membrane Biology 21(1/2):125-146.

005013364 Borrero R, J. (1968) Glomerulonefritis: mecanismos patogenicos y posibles metodos de tratamiento. [Glomerulonephritis: pathogenic mechanisms and possible therapeutic methods.] Antioquia Medica 18(9):659-674.

005003831 Borrero, J.; Todd, M.E.; Becker, C.G.; Becker, E.L. (1973) Masugi nephritis: the renal lesion and the coagulation processes. Clinical Nephrology 1(2):86-93.

005014037 Bors, G.; Ioanid, N. (1966) Incercari privind ameliorarea izolarii unor substante din solutiile extractive (eter acid). III. Cercetarea chimica-toxicologica a Warfarinei. [Improved methods of separation of compounds from extracting solutions (acid ether). III. Chemical toxicological investigation of warfarin.] Farmacia (Bucharest). [Pharmacy.] XIV(1):9-12.

005018538 Boschetti, E.; Lechevin, J.C., inventors; LIPHA, Lyonnaise Industrielle Pharmaceutique, assignee (1977) Nagetierbekaempfungsmittel und dessen Verwendung. [Rodenticide and method for its application.] German (Fed. Rep.) offenlegungsschrift 26 33 834. Mar 3. 10 p. Int. Cl. 2* A 01N 17/06.

005003260 Boschetti, E.; Molho, D.; Chabert, J.; Grand, M.; Fontaine, L. (1972) Nouvelles coumarines a activite anticoagulante. [New coumarins with anticoagulant activity.] Chimica Therapeutica 7(1):20-23.

005002981 Bosmann, H.B. (1971) Macromolecular synthesis: effects of vitamin K and warfarin on macromolecular synthesis in Escherichia coli. Life Sciences, Part II 10(2):61-69.

005014079 Boss, J.M.; Summerley, R. (1979) Prevention of warfarin-induced skin necrosis [letter]. British Journal of Dermatology 100(5):617.

005008374 Boss, J.M.; Summerly, R. (1979) Prevention of warfarin-induced skin necrosis [letter]. British Journal of Dermatology 100(5):617.

005011213 Boulos, B.M.; Dujovne, C.A.; Azarnoff, D.L. (1971) Warfarin treatment of transplanted fibrosarcoma. Pharmacologist 13(2):260.

005003575 Bouvier, G. (1962) Intoxication des pores par les anticoagulants utilises pour la lutte contre les rongeurs, une maladie de plus en plus frequente. [Poisoning of swine by anticoagulants used in rodent control, a more and more frequent malady.] Schweizer Archiv fuer Tierheilkunde 104(8):519-522.

005002934 Bowden, R.S.T.; Baxter, M.K.; Hodgman, S.F.J.; Wilkinson, E. (1960) Warfarin poisoning at Derby greyhound stadium. Veterinary Record 72(6):102-105.

005003330 Bowerman, A.M.; Brooks, J.E. (1972) What makes a palatable warfarin. Pest Control 40(2):22,28-29.

005004334 Boyer, C.I., Jr.; Brown, J.A. (1958) Toxicity of warfarin and house-paint for turkeys. Pages 35, In Annual Report of the New York State Veterinary College, Cornell University, 1956-1957. Ithaca, N.Y.: Cornell University. (Abstract no. 72)

005002868 Boyle, C.M. (1960) Case of apparent resistance of Rattus norvegicus Berkenhout to anticoagulant poisons. Nature 188(4749):517.

005011223 Bradley, C.L. (1960) Effective municipal rodent control. Journal of Milk and Food Technology 23:303-305.

005013960 Brambel, C.E.; Capone, V.A. (1955) Superiority of vitamin K_1 (2-methyl-3-phytyl-1,4-naphthoquinone) emulsion as a counteractant for coumarin anticoagulants. Pages 350-354,*In Thrombosis and Embolism, Proceedings of the 1st International Conference; Jul 20-24, 1954, Basel, Switzerland. Edited by T. Koller and W.R. Reinhold. Basel, Switzerland: Benno Schwabe.

005011914 Brand, D. (1972) World's no. 1 rat poison may be losing its potency against some of rodents. Wall Street Journal. Sep 27 :16.

005002457 Brautbar, N.; Menz, C.L.; Winston, M.A.; Shinanberger, J.H. (1978) Retroperitoneal bleeding in hemodialysis patients: a cause for morbidity and mortality. Journal of the American Medical Association 239(15):1530-1531.

005001846 Braverman, L.E.; Foster, A.E. (1969) Effect of chronic coumadin administration on thyroid hormone binding in serum. Journal of Nuclear Medicine 10(7):511-513.

005005709 Bravic, G.; Gaultier, J.; Hauw, C. (1973) Structure cristalline d'une antivitamine K: la warfarine. [Crystal structure of an antivitamin K, warfarin.] Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences, Serie C 277(22):1215-1218.

005007112 Breckenridge, A. (1971) Pathophysiological factors influencing drug kinetics. Acta Pharmacologica et Toxicologica. Supplementum 3:225-232.

005004115 Breckenridge, A. (1975) Clinical implications of enzyme induction. Pages 273-301, In Basic Life Sciences. Vol. 6. New York: Plenum Press.

005010464 Breckenridge, A. (1978) Oral anticoagulant drugs: pharmacokinetic aspects. Seminars in Hematology 15(1):19-26.

005002731 Breckenridge, A.; Orme, M. (1971) Implications of enzyme induction in man. Archives Internationales de Pharmacodynamie et de Therapie. Supplement 192:220-231.

005005514 Breckenridge, A.; Orme, M. (1973) Implications of enzyme induction in man. Pages 220-231, In Proceedings of the International Symposium on Clinical Pharmacology; Dec 4-5, 1970, Brussels, Belgium. Brussels, Belgium: Koninklijke Vlaamse Academie voor Geneeskunde van Belgie.

005003827 Breckenridge, A.; Orme, M. (1973) Interaction of benzodiazepines with oral anticoagulants. Pages 647-654, In The Benzodiazepines. Edited by S. Garattini, E. Mussini, and L.O. Randall. New York: Raven Press.

005006286 Breckenridge, A.; Orme, M.; Rowland, M.; Shearer, M.; Lewis, R.J. (1974) Alterations in the response to warfarin [abstract]. Acta Pharmaceutica Suecica 2(6):652-653.

005003311 Breckenridge, A.; Orme, M.L. (1972) The plasma half lives and the pharmacological effect of the enantiomers of warfarin in rats. Life Sciences 11(7):337-345.

005010754 Breckenridge, A.; Orme, M.L. (1973) Measurement of plasma warfarin concentrations in clinical practice. Pages 145-154, In Biological Effects of Drugs in Relation to Their Plasma Concentrations, Proceedings of a Symposium; Jan 4, 1972, London. Edited by D.S. Davies and B.N.C. Prichard. Baltimore, Md.: University Park Press.

005003937 Breckenridge, A.; Orme, M.L.; Davies, D.S.; Thorgeirsson, S. (1969) Induction of drug metabolizing enzymes in man and rat bydichloralphenazone. Clinical Science 37(2):565.

005003825 Breckenridge, A.; Orme, M.L.; Thorgeirsson, S.; Davies, D.S.; Brooks, R.V. (1971) Drug interactions with warfarin: studies with dichloralphenazone, chloral hydrate and phenazone (antipyrine). Clinical Science 40(4):351-364.

005012917 Breckenridge, A.; Orme, M.L.E.; Wesseling, H.; Bending, M.; Lewis, R.J. (1974) Increased rates of drug oxidation in man. Pages 223-230, In Drug Interactions. Edited by P.L. Morselli, S. Garattini, and S.N. Cohen. New York: Raven Press.

005013660 Breckenridge, A.M.; Leck, J.B.; Park, B.K.; Serlin, M.J.; Wilson, A. (1978) Mechanisms of action of the anticoagulants warfarin, 2-chloro-3-phytylnaphthoquinone (Cl-K), acenocoumarol, brodifacoum and difenacoum in the rabbit. British Journal of Pharmacology 64(3):399.

005000993 British Crop Protection Council (1974) Pesticide Manual: Basic Information on the Chemicals Used as Active Components of Pesticides. Edited by H. Martin and C.R. Worthing. 4th ed. London, England: British Crop Protection Council.

005019405 Broccia, G. (1968) Considerazioni pratiche sui fattori che influenzano l'effetto ipoprotrombinemizzante degli anticoagulanti indiretti. [Practical considerations of factors which influence the hypoprothrombinemic effect of indirect anticoagulants.] Settimana Medica. [Medical Weekly.] 56(13):685-694.

000005988 Brock, E.M. (1965) Toxicological feeding trials to evaluate the hazard of secondary poisoning to gopher snakes, Pituophis catenifer. Copeia (2):244-245. (Also In unpublished submission received Apr 23, 1976 under 6704-78; submitted by U.S. Dept. of Interior, Fish and Wildlife Service, Washington, D.C.; CDL:224031-L)

005002475 Brodie, J. (1976) Anticoagulant resistant rats (Rattus norvegicus) in Scotland. International Pest Control 18(1):7-10.

005006761 Brody, B.B. (1971) The effect of drugs on clinical laboratory determinations. Clinical Chemistry 17(5):355-357.

005002785 Brooks, J.E.; Bowerman, A.M. (1973) Anticoagulant resistance in wild Norway rats in New York. Journal of Hygiene 71(2):217-222.

005002641 Brooks, J.E.; Bowerman, A.M. (1974) An analysis of the susceptibilities of several populations of *Rattus norvegicus* to warfarin. Journal of Hygiene 73(3):401-407.

005002939 Brooks, J.E.; Bowerman, A.M. (1975) Anticoagulant resistance in rodents in the United States and Europe. Journal of Environmental Health 37(6):537-542.

005013947 Brothers, D.R. (1972) A case of anticoagulant rodenticide resistance in an Idaho Norway rat (*Rattus norvegicus*) population. California Vector Views 19(6):41-44.

005003628 Brown, M.A.; Korchinski, E.D.; Miller, D.R. (1978) Interaction of penicillin-G and warfarin. Canadian Journal of Pharmaceutical Sciences 13(4):98.

005003730 Brown, N.A.; Jaehnchen, E.; Mueller, W.E.; Schmidt, W.; Wollert, U. (1979) Species differences of the stereoselective binding of phenprocoumon and warfarin enantiomers to serum albumins. Comparative Biochemistry and Physiology 62(1):101-105.

005006885 Brown, N.A.; Jaehnchen, E.; Mueller, W.E.; Wollert, U. (1977) Optical studies on the mechanism of the interaction of the enantiomers of the anticoagulant drugs phenprocoumon and warfarin with human serum albumin. Molecular Pharmacology 13(1):70-79.

005019234 Brown, P.M.; Chana, J.S. (1979) Interference by warfarin in the detection of carbamate insecticides on thin-layer chromatograms by an esterase inhibition technique. Journal of Chromatography 169(1):407-408.

005013661 Brown, P.M.; Chana, J.S. (1979) Interference by warfarin in the detection of carbamate insecticides on thin-layer chromatograms by an esterase inhibition technique. Journal of Chromatography 169:407-408.

005008895 Brown, R.L. (1966) Pesticides in Clinical Practice: Identification, Pharmacology, and Therapeutics. Springfield, Ill.: Charles C. Thomas.

005003961 Buck, W.B. (1974) Warfarin and other anticoagulant poisonings. Current Veterinary Therapy 5:127-129.

005004338 Buck, W.B. (1977) Warfarin and other anticoagulant poisonings. Current Veterinary Therapy 6:121-122.

005002786 Buckelew, A.R., Jr.; Chakravarti, A.; Burge, W.R.; Thomas, V.M., Jr.; Ikawa, M. (1972) Effect of mycotoxins and coumarins on the growth of *Bacillus megaterium* from spores. Journal of Agricultural and Food Chemistry 20(2):431-433.

005002635 Burdi, A.R.; Barr, M. (1976) Warfarin-associated fetal dyschondrogenesis. Teratology 13(2):18A-19A.

005004298 Burlow, S.N., inventor; Velsicol Chemical Corporation, assignee (1974) Rodenticidal compositions and processes employing gelatinized amylaceous materials. U.S. patent 3,843,783. Oct 22. 4 p. Int. Cl. A 01n 17/14; U.S. Cl. 424/84.

005003821 Burns, J.J. (1969) Interaction of environmental agents and drugs. Environmental Research 2(5/6):352-359.

005014824 Busse, O.; Hamer, J.; Paal, G.; Piotrowski, W. (1972) Spontane epidurale spinale Haematome waehrend und nach Anticoagulantienmedikation. [Spontaneous epidural spinal hematoma during and following anticoagulant medication.] Nervenarzt 43(6):318-322.

005002132 Buu-Hoi, N.P.; Hien, D.P. (1968) Potentiation of the anticoagulant effects of anti-vitamins K by 6-mercaptopurine. Naturwissenschaften 55(3):134.

005014036 Buu-Hoi, N.P.; Hien, D.P.; Hoi, T.T. (1967) Effets de deux diuretiques, l'hydrochlorothiazide et l'acide ethacrynique, sur la coagulation sanguine chez le rat normal et chez le rat recevant des antivitamines K. [Effects of two diuretics, hydrochlorothiazide and ethacrynic acid, on blood clotting in normals rats and rats given antivitamin K compounds.] Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences, Serie D 265:2165-2167.

005005639 Buu-Hoi, N.P.; Hien, D.P.; Hoi, T.T. (1967) Effets de deux diuretiques, l'hydrochlorothiazide et l'acide ethacrynique, sur la coagulation sanguine chez le rat normal et chez le rat recevant des antivitamines K. [Effects of two diuretics, hydrochlorothiazide and ethacrynic acid, on blood clotting in normal rats and in those given antivitamin K compounds.] Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences, Serie D 265(25):2165-2167.

005009212 Buu-Hoi, N.P.; Hoi, T.T.; Hieu, H.T. (1969) Effets de divers diuretiques sur le pouvoir anticoagulant des antivitamines K chez le rat; relations entre structure chimique et ces effets. [Effects of various diuretics on the anticoagulant power of antivitamins K in rats; relations between chemical structure and these effects.} Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences, Serie D 268(10):1451-1453.

005003322 Buxbaum, A.; Aygen, M.M.; Shahin, W.; Levy, M.J.; Ekerling, B. (1971) Pregnancy in patients with prosthetic heart valves. Chest 59(6):639-642.

005009948 Cabrol, L., inventor; Laboratoires Francais de Technibiologie, assignee (1976) Nouvelle composition rodenticide. [New rodenticide compound.] French brevet d'invention 2,288,464. May 21. 11 p. Int Cl.$_2$ A 01N 17/08.

005002447 Caissie, G.E.; Mallet, V.N. (1976) The fluorimetric detection of pesticides on aluminium oxide layers. Journal of Chromatography 117(1):129-136.

005002600 Caldwell, P.T.; Ren, P.; Bell, R.G. (1974) Warfarin and metabolism of vitamin K_1. Biochemical Pharmacology 23(24):3353-3362.

005009768 Caldwell, S.T.; Keil, J.E.; Sandifer, S.H. (1977) Survey of animal pesticides poisoning in South Carolina, 1976. Veterinary and Human Toxicology 19(3):166-168.

000002407 Calsetta, D.R.; Starr, D.F. (1952) Report on the Acceptability of Warfarinized Water (Link's Rat Drink). (Unpublished study including report, received Apr 1, 1952 under 3282-6; prepared by S.B. Penick & Co., submitted by d-Con Co., Inc., New York, N.Y.; CDL:008783-B)

005002323 Camin, J.H.; Clarke, G.K.; Goodson, L.H.; Shuyler, H.R. (1964) Control of the snake mite,*Ophionyssus natricis, in captive reptile collections. Zoologica 49(2):65-79.

005013959 Cannon, G. (1952) Warfarin: rats must drink to live; now, with liquid warfarin, they can drink themselves to death. Farm Quarterly 7(4):34-35,130-134.

005004254 Caprino, L.; Falchetti, R.; Borrelli, F. (1975) Pharmacological interactions between ditazole and anticoagulant drugs. Arzneimittel-Forschung. [Drug Research.] 25(12):1920-1923.

005002817 Caranasos, G.J.; Stewart, R.B.; Cluff, L.E. (1974) Drug-induced illness leading to hospitalization. Journal of the American Medical Association 228(6):713-717.

005003133 Carlisle, T.L.; Shah, D.V.; Schlegel, R.; Suttie, J.W. (1975) Plasma abnormal prothrombin and microsomal prothrombin precursor in various species. Proceedings of the Society for Experimental Biology and Medicine 148(1):140-144.

000002319 Carlson, G.P. (1974) Multiple Dose Rodenticide Study. (Unpublished study received Dec 6, 1974 under 34867-1; prepared by Univ. of Rhode Island, Dept. of Pharmacology and Toxicology, submitted by Vincent Zonfrilli, Providence, R.I.; CDL:224256-A)

005005715 Carollo, F.; Cadili, G. (1975) Sulla probabile azione teratogena del 3-(alpha-acetonilbenzil) 4-idrossicumarina: descrizione di un caso clinico. [On the probable teratogenous action of 3-(alpha-acetonyl-benzoyl) 4-hydroxycoumarin: description of a clinical case.] Patologia e Clinica Ostetrica e Ginecologica 3(4):176-179.

005004102 Carpentieri, U.; Nghiem, Q.X.; Harris, L.C. (1975) Long term anticoagulant therapy in children and adolescents. Clinical Research 23(1):57.

005002814 Carson, M.; Reid, M. (1976) Warfarin and fetal abnormality [letter]. Lancet 1(7973):1356.

005002951 Carson, M.; Reid, M. (1976) Warfarin and fetal abnormality [letter]. Lancet 1(7969):1127.

005002815 Carson, M.; Reid, M.; Hall, J.G. (1976) Warfarin and fetal abnormality [letters]. Lancet 1:1127.

005019328 Carson, M.; Reid, M.; Hall, J.G. (1976) Warfarin and fetal abnormality [letters]. Lancet 1(7969):1127.

005010959 Carson, T.L. (1977) Diagnostic problems of anticoagulant rodenticide toxicoses. Pages 139-142, In Proceedings of the 20th Annual Meeting--American Association of Veterinary Laboratory Diagnosticians. Madison, Wis.: American Association of Veterinary Laboratory Diagnosticians.

005002816 Caswell, R.L. (1960) Anticoagulant rodenticides in concentrates and baits. Journal of the Association of Official Agricultural Chemists 43(2):365-367.

005001701 Caswell, R.L. (1969) Report on pesticide formulations. Journal of the Association of Official Analytical Chemists 52(2):220-221.

005006880 Center for Disease Control (1972) Public health pesticides. Pest Control 40(4):35-38,45-46,48,50,52,54-65.

005014274 Centro de Informacion Toxicologica (1972) Tratamiento para intoxicaciones por rodenticidas. [Treatment for poisonings caused by rodenticides.] Antioquia Medica 22(9/10):699-704.

005004582 Cepelak, V.; Cepelakova, H.; Roubal, Z.; Nemecek, O. (1972) Effects of drugs on platelet aggregation: attempt at quantitative comparison of inhibitory effects. Acta Universitatis Carolinae, Medica, Monographia 53(54):221-227.

005003837 Cepelak, V.; Roubal, Z.; Cepelakova, H.; Nemecek, O. (1972) Chemical induction of fibrinolysis and inhibition of platelet aggregation (with special respect to effect of nonsteroid antiinflammatory drugs). Acta Universitatis Carolinae, Medica, Monographia 52:41-47.

005013949 Cepelakova, H.; Roubal, Z.; Grimova, J.; Dlabac, A.; Cepelak, V. (1972) Effect of pyrazolidine and coumarin derivatives on bleeding time and prothrombin level in rats. Pages 55-60, In Acta Universitatis Carolinae, Medica, Monographia, No. 52. Prague, Czechoslovakia: ARTIA.

005019787 Cha, C.W. (1974) Gusuhjae jungdockuy jungsangua chiryo. [The symptoms and treatment of rodenticide poisoning.] Taehan Uihak Hyophoe Chapchi. [Journal of the Korean Medical Association.] 17(11):833-837.

005002931 Chakrabarti, S.; Brodeur, J. (1977) The influence of fasting on the diuretic response of rats to furosemide. Toxicology and Applied Pharmacology 41(1):180.

005003386 Chakrabarti, S.; Laliberte, R.; Brodeur, J. (1975) Influence of fasting and stress on the binding characteristics of warfarin to plasma proteins in rats. Federation Proceedings 34(3):742.

005002977 Chamberlain, M.S.; Evans, W.E. (1969) Coumadin induced small bowel obstruction: report of a case. Annals of Surgery 169(1):145-147.

005002632 Chambers, P.L.; Hegarty, J.H. (1974) Oral dosing of the grey squirrel (*Scurius carolinensis*) with warfarin. Irish Journal of Medical Science 143(5):304.

005004101 Chan, K.; Chlebowski, R.; Gota, C.; Bateman, J. (1978) Pharmacokinetic analysis of the interaction of sodium warfarin with 5-fluorouracil. Clinical Research 26(2):100.

005002819 Chan, K.K.; Lewis, R.J.; Trager, W.F. (1972) Absolute configurations of the four warfarin alcohols. Journal of Medicinal Chemistry 15(12):1265-1270.

005006759 Chan, K.K.H. (1972) Aspects of human metabolism of warfarin sodium. Dissertation Abstracts International B 33(8):3569.

005006356 Chan, K.K.H. (1972) Aspects of human metabolism of warfarin sodium. Dissertation Abstracts International B 33(8):3569.

005005428 Chang, J.C. (1972) In vitro DNA and RNA inhibiting capacity of sodium warfarin (SW) [abstract]. Clinical Research 20(3):565.

005002606 Chapman, C.J. (1977) Drugs and genes: therapeutic implications. Drugs 14(3):120-127.

005019950 Charest-Boule, L.; Chakrabarti, S.; Brodeur, J. (1980) Influence of free fatty acid anion on the binding of warfarin to cytoplasmic proteins from rat liver. Chemico-Biological Interactions 29(1):85-94.

005002450 Chatfield, D.H.; Green, J.N.; Kao, J.C.; Tarrant, M.E.; Woodage, T.J. (1978) Plasma protein binding and interaction studies with benoxaprofen. Biochemical Pharmacology 27(6):887-890.

005005034 Chattopadhyay, S. (1971) A study of adrenal function during combined treatment with stress and indirect anticoagulants. Dissertation Abstracts International B 31(8):4949.

005013948 Chattopadhyay, S. (1971) The effect of estrogen and handling of rats on the spontaneous hemorrhage test, a pharmacological parameter of hemostasis. Indian Journal of Physiology and Allied Science XXV(1):1-5.

005003818 Chattopadhyay, S.; Johnson, D.D.; Millar, G.J.; Jaques, L.B. (1971) The effect of stress and warfarin on the adrenal gland in relation to spontaneous hemorrhage, as judged by measurement of adrenal ascorbic acid and serum corticosterone. Thrombosis et Diathesis Haemorrhagica 26(2):275-288.

005002446 Chaudry, I.A.; King, R.E. (1972) Migration of potent drugs in wet granulations. Journal of Pharmaceutical Sciences 61(7):1121-1125.

005004883 Chaves, G.M.; Couto, F.A.A. (1958) Ensaios comparativos sobre a eficiencia de fungicidas organicos e a base de cobre no controle da mela (Phytophtora infestans (Mont.) de Bary) e da septoriose (Septoria lycopersici Speg.) do tomateiro. [Comparative tests on the efficiency of organic fungicides based on copper in the control of blight (Phytophtora infestans (Mont.) de Bary) and of septoria leaf spot (Septoria lycopersici Speg.) of the tomato plant.] Revista Ceres 10:302-316.

005007508 Chazov, E.I.; Pershakova, L.P.; Iliushina, I.P. (1965) Klinicheskoe izuchenie novykh otechestvennykh antikoagulyantov varfarina i nafarina. [Clinical study of the new Soviet anticoagulants, warfarin and narafin.] Terapeuticheskii Arkhiv. [Archives of Therapeutics.] 37(3):48-53.

000004156 Chemical Specialties Company, Incorporated (19??) [Rat and Mouse Assay]. (Unpublished study received Feb 21, 1975 under 1660-15; CDL:236720-A)

005005424 Chen, W.Y.; Hsieh, B.S.; Yen, T.S.; Cheng, J.T. (1973) Studies on acute drug poisoning. Journal of the Formosan Medical Association 72:386-393.

005007101 Chignell, C.F. (1970) Optical studies of drug-protein complexes: IV. The interaction of warfarin and dicoumarol with human serum albumin. Molecular Pharmacology 6(1):1-12.

005004901 Chignell, C.F. (1973) Recent advances in methodology: spectroscopic techniques. Annals of the New York Academy of Sciences 226:44-59.

005009252 Chignell, C.F. (1974) Fluorescence spectroscopy as a tool for monitoring drug-albumin interactions. Pages 111-122, In Drug Interactions. Edited by P.L. Morselli, S. Garattini and S.N. Cohen. New York: Raven Press.

005002875 Chin, J.L. (1973) Disulfiram and warfarin [letter]. Annals of Internal Medicine 79(2):288-289.

005017831 Cho, T.H.; Ch'a, Y.H. (1971) Salssoche ui hyoryok e kwanhan kich'ochok yon'gu. [A basic study on the effects of rodenticides.] Kach'uk Wisaeng Yon'guso Po. [Bulletin of the Institute of Veterinary Research.] 17:75-89.

005010047 Chouinard, G. (1977) Guide pratique pour l'emploi des agents psychopharmacologiques: III. Antidepressifs. [Practical guide for the use of psychopharmacological agents: III. Antidepressants.] L'Union Medicale du Canada 106(6):821-828.

005002601 Christensen, F.; Wissing, F. (1972) Inhibition of microsomal drug-metabolizing enzymes from rat liver by various 4-hydroxycoumarin derivatives. Biochemical Pharmacology 21(7):975-984.

005013648 Christian, G.D. (1979) A video fluorometer for biological analyses [abstract no. 4.0474]. Toxicology Research Projects Directory, Section 1 4(4):53.

005007102 Chua, F.S.; Chiscano, A.D.; Wukasch, D.C; Chapman, D.W.; Cooley, D.A. (1973) Dermal gangrene: an unpredictable complication of coumarin therapy. Journal of Thoracic and Cardiovascular Surgery 65(2):238-240.

005004335 Chuang, S. (1958) Warfarin, a promising rodenticide for the eradication of rats in sugarcane plantations. Taiwan Sugar 5(5):14-21.

005013686 Chung, K.C. (1974) [Prevention of agricultural pesticides poisoning.] Taehan Uihak Hyophoe Chapchi. [Journal of the Korean Medical Association.] 17(11):838-842.

005010461 Cioloca, T.; Marschang, F.; Paul, W.; Mandache, T. (1972) Bemerkungen zur Warfarinvergiftung bei Schweinen, Schafen und Wildvoegeln (Klinische Kurzmitteilung). [Remarks on warfarin poisoning of swine, sheep and wild birds (clinical brief communication).] Deutsche Tieraerztliche Wochenschrift 79(2):37-39.

005003301 Clark, S.T. (1954) A case of warfarin poisoning in young pigs. Veterinary Record 66(5):78-80.

005003308 Clarke, C.H. (1977) Anti-mutagenesis and anti-mutagens. Mutation Research 46(3):195-196.

005001848 Clarke, E.G.C. (1969) Poisoning in the pig. British Veterinary Journal 125(6):289-293.

005002602 Clatanoff, D.V.; Triggs, P.O.; Meyer, O.O. (1954) Clinical experience with coumarin anticoagulants: warfarin and warfarin sodium. Archives of Internal Medicine 94(2):213-220.

000002353 Clodfelter, E.W. (1973) Efficacy Test Report: [Warfarin]. (Unpublished study received Jan 20, 1975 under 6653-1; submitted by Goulds Dell Products, Williamsport, Pa.; CDL:000329-A)

005002254 Cohen, S.; Benacerraf, B.; McCluskey, R.T.; Ovary, Z. (1967) Effect of anticoagulants on delayed hypersensitivity reactions. Journal of Immunology 98(2):351-358.

005002864 Coldwell, B.B.; Buttar, H.S.; Paul, C.J.; Thomas, B.H. (1974) Effect of sodium salicylate on the fate of warfarin in the rat. Toxicology and Applied Pharmacology 28(3):374-384.

005002599 Coldwell, B.B.; Buttar, H.S.; Thomas, B.H. (1973) Metabolic interaction of salicylate and warfarin. Pharmacologist 15(2):212.

005002451 Cole, E.R.; Bachmann, F. (1976) Spectrophotometric assays for warfarin sodium and dicumarol: use in rapid detection of patients suspected of drug intoxication or surreptitious noningestion. Archives of Internal Medicine 136(4):474-479.

005003836 Collins, J.D.; Hughes-Ellis, T.; O'Reilly, P.J. (1966) Blood transfusion therapy for warfarin intoxication in the dog utilising polyvinyl chlorid plastic transfusion units. Irish Veterinary Journal 20(1):4-8.

005002820 Collins, P.; Olufs, R.; Kravitz, H.; Babakitis, M. (1977) Relationship of maternal warfarin therapy in pregnancy to chondrodysplasia punctata: report of a case. American Journal of Obstetrics and Gynecology 127(4):444-446.

005002865 Colvin, H.W., Jr.; Wang, W.L. (1974) Toxic effects of warfarin in rats fed different diets. Toxicology and Applied Pharmacology 28(3):337-348.

005004253 Combs, A.B.; Porter, T.H.; Folkers, K. (1976) Anticoagulant activity of a naphthoquinone analog of vitamin K and an inhibitor of coenzyme Q_{10}-enzyme systems. Research Communications in Chemical Pathology and Pharmacology 13(1):109-114.

005005712 Connolly, P.J. (1951) Nueva arma de combate contra las enfermedades. [A new weapon in pest control.] Revista del Cafe 7(3):12-13.

005004344 Connolly, P.J. (1952) Warfarin for rat control in cane fields. Sugar 47(5):54-55.

005019404 Conway, P.; Valentovic, M.; Bachmann, K. (1979) Tissue binding of warfarin. Research Communications in Chemical Pathology and Pharmacology 26(2):309-315.

005002866 Cook, C.E.; Ballentine, N.; Seltzman, T.; Tallent, C.R. (1977) Immunoassay as a tool for analysis of enantiomers: stereoselective radioimmunoassay for R- and S-warfarin. Pharmacologist 19(2):128.

005019173 Cook, C.E.; Tallent, C.R.; Ballentine, N.H.; Taylor, G.F.; Kepler, J.A. (1979) Synthesis of high specific activity R- and S-warfarin- Radiopharmaceuticals XVI(4):623-631.

005003309 Coon, F.B.; Richter, E.F.; Hein, L.W.; Krieger, C.H. (1954) Problems encountered in physicochemical determination of warfarin. Journal of Agricultural and Food Chemistry 2(14):739-741.

005002449 Cooper, P.F. (1971) Anticoagulant interactions [letter]. British Medical Journal 4(786):560.

005005305 Corn, M. (1966) Effect of phenobarbital and glutethimide on biological half-life of warfarin. Thrombosis et Diathesis Haemorrhagica 16(3/4):606-612.

005006760 Corn, M.; Berberich, R. (1967) Rapid fluorometric assay for plasma warfarin. Clinical Chemistry 13(2):126-131.

005002732 Cornwell, P.B. (1970) Studies in microencapsulation of rodenticides. International Pest Control 12(4):35-42.

005004100 Cotchin, E.; Carter, J. (1955) Warfarin poisoning in a dog. Veterinary Record 67:753.

005013547 Cotton, C.E. (1952) Warfarin poisoning. Iowa State College Veterinarian 14:170.

005001785 Couri, D.; Wosillait, W.D. (1966) The effect of coumarin anticoagulants on the adenine nucleotide content and protein synthesis in rat liver. Biochemical Pharmacology 15(9):1349-1360.

005007110 Coventry, M.B.; Nolan, D.R.; Beckenbaugh, R.D. (1973) "Delayed" prophylactic anticoagulation: a study of results and complications in 2,012 total hip arthroplasties. Journal of Bone and Joint Surgery 55A(7):1487-1492.

005002631 Cox, D.R.; Martin, L.; Hall, B.D. (1977) Asplenia syndrome after fetal exposure to warfarin [letter]. Lancet 2(8048):1134.

000002404 Crabtree, D.G. (1949) Investigations with the Proposed Rodenticide Known as Compound No 42 (3-(1-Phenyl-2-acetylethyl)-4-hydroxycoumarin): Special Report. (Unpublished study received Apr 12, 1952 under 3282-6; prepared by [U.S. Fish and Wildlife Service], Wildlife Research Laboratory, submitted by d-Con Co., Inc., New York, N.Y.; CDL:008784-A)

005006601 Crabtree, D.G. (1950) Raticidal potentialities of WARF-42. Soap and Sanitary Chemicals 2:131,133,135,147.

000002471 Crabtree, D.G.; Robison, W.H. (19??) Warfarin and its effect on some wildlife species. Pages 167-173, In Seventeenth North American Wildlife Conference. N.P. (Also In unpublished submission received May 30, 1972 under unknown admin. no.; submitted by Velsicol Chemical Corp., Chicago, Ill.; CDL:230307-G)

000002841 Craig, H.; Kaitz, C. (1971) Toxicity Study (Potency) Warfet vs. Control Diet (Rat Studies). (Unpublished study including letter dated Jun 1, 1971 from C. Kaitz to Douglas D. Campt, received Jun 4, 1971 under 6035-48; submitted by Vineland Laboratories, Inc., Vineland, N.J.; CDL:007800-A)

005007104 Crisler, C.; Stafford, E.S.; Zuidema, G.D. (1970) Intestinal obstruction in patients receiving anticoagulants. Surgical Clinics of North America 50(5):1009-1013.

005002448 Crispin, S.M.; Douglas, S.W.; Hall, L.W.; Hird, J.F.R.; Lavelle, R.B.; Littlewort, M.C.G.; Rees Evans, E.T.; Walker, R.G. (1975) Warfarin poisoning in domestic animals [letter]. British Medical Journal 2(5969):500.

005013412 Crooks, J.; Stevenson, I.H.; Shepherd, A.M.M.; Moir, D.C. (1975) The clinical significance and importance of drug interactions. Pages 3-13, In Drug Interactions. Edited by D.G. Grahame-Smith. Baltimore, Md.: University Park Press.

005002979 Crosby, D.G.; Berthold, R.V. (1962) Fluorescence spectra of some simple coumarins. Analytical Biochemistry 4(5):349-357.

005002867 Cullen, S.I.; Catalano, P.M. (1966) Warfarin antagonism by griseofulvin. Journal of the American Medical Association 196(6):585.

005002051 Cullen, S.I.; Catalano, P.M. (1967) Griseofulvin-warfarin antagonism. Journal of the American Medical Association 199(8):150-151.

005002120 Cullen, S.I.; Catalano, P.M. (1967) Griseofulvin-warfarin antagonism. Journal of the American Medical Association 199(8):582-583.

005002980 Curry, P.V.L.; Bacon, P.A. (1974) Retroperitoneal haemorrhage and neuropathy complicating anticoagulant therapy. Postgraduate Medical Journal 50(579):37-40.

005002548 Cuthbert, J.H. (1963) Further evidence of resistance to warfarin in the rat. Nature (London) 198(4882):807-808.

005000301 Cutting, W.C. (1967) Insecticides, repellents and rodenticides. Pages 132-140, In Handbook of Pharmacology, 3rd Edition. New York: Appleton-Century-Crofts.

005005969 D'Arca, S.U.; Di Martino, M.; Santi, A.L. (1969) Aspetti nuovi nel problema della derattizzazione. [New aspects in the problem of extermination of rats.] Annali di Medicina Navale. [Medical Annals of the Navy.] 74(6):673-684.

005013662 D'Souza, D.P.; Daly, L.; Thornes, R.D. (1978) Levamisole, B.C.G. and warfarin as adjuvants to chemotherapy for increased survival in advanced breast cancer. Journal of the Irish Medical Association 71(18):605-608.

005001818 Dacus, R.M., III (1968) Massive intraperitoneal hemorrhage from a corpus luteum hematoma in women taking anticoagulants: report of 2 cases. Obstetrics and Gynecology 31(4):471-474.

005002113 Daenens, P.; Boven, M. van (1971) Separation of some therapeutically important coumarins and related compounds by thin-layer chromatography. Journal of Chromatography 57(2):319-321.

005001817 Dajani, Y.F. (1977) Hematuria in patients on anticoagulants [letter] New England Journal of Medicine 297(4):222.

005006273 Dajoz, R. (1968) Rongeurs resistants aux anticoagulants. [Rodents resistant to anticoagulants.] Science Progres, la Nature (3404):473.

005001819 Dakin, G.W. (1968) Post-mortem toxicological findings in a case of warfarin poisoning [letter] Veterinary Record 83(25):664.

005000991 Danish Pest Infestation Laboratory (1971) Statens Skadedyrlaboratorium Arsberetning-Danish Pest Infestation Laboratory Annual Report 1970. Lyngby, Denmark: Statens Skadedyrlaboratorium.

000002412 Dapples, C.C. (1971) [Efficacy Tests for Multiple Dose Rodenticide: Colonial-42]. (Unpublished study received Oct 19, 1971 under 3314-1; prepared by Rocky Mountain College, Dept. of Biology, submitted by Colonial Products, Inc., Lake Worth, Fla.; CDL: 016030-A)

005009300 Darley, C.D. (1975) The concept and management of a pest free zone. Environmental Health 83(1):15-18.

005001918 Darley, C.D. (1975) The concept and management of a pest free zone. Environmental Health (England) 83(1):15-19.

005003296 Darmansjah, I. (1976) Pesticide poisoning as a pediatric emergency. Paediatrica Indonesiana 16(1/2):11-20.

005002111 Davies, D.M.; Rawlins, M.D.; Routledge, P.A. (1977) Factors affecting anticoagulant response. British Journal of Clinical Pharmacology 4(5):636P.

005006967 Davies, J.I.; Evans, W.C. (1962) Ring fission of the naphthalene nucleus by certain soil pseudomonads. Biochemical Journal 85:21-22.

005003294 Davis, R.A. (1977) Methods for laboratory testing of rodenticidal dusts. EPPO Bulletin 7(2):479-483.

005002041 Davis, R.B.; Bailey, W.L.; Hanson, N.P. (1963) Modification of serotonin and histamine release after E. coli endotoxin administration. American Journal of Physiology 205(3):560-566.

005020288 Davis, R.J. (1974) Warfarin Metabolism in Normal and Warfarin-Resistant Rats [Doctoral Dissertation]. Aberystwyth, Wales: University of Wales.

005018507 De Anda, L.D.; Flores-Crespo, R. (1977) Tiempo de protrombina de becerros alimentados con leche de vacas tratadas con Vampirinip III. [Prothrombin time of calves fed with milk from cows treated with Vampirinip III.] Tecnica Pecuaria en Mexico 33:71-73.

005018606 De Anda, L.D.; Flores-Crespo, R. (1977) Tiempo de protrombina de bovinos en diferentes estadios fisiologicos tratados con Vampirinip III. [Prothrombin time of cattle in different physiological states treated with Vampirinip III.] Tecnica Pecuaria en Mexico 33:67-70.

005002240 de Castro, F.J.; Jaeger, R.W. (1977) Pesticides. Paediatrician 6(35):250-261.

005002239 Deckert, F.W. (1970) Exploratory studies on the metabolism of warfarin in the guinea pig: Section I. The anticoagulent action of warfarin in the guinea pig. Section II. The metabolism of 4-14C-warfarin in the guinea pig. Dissertation Abstracts International B 31(11):6792.

005001753 Deckert, F.W. (1972) Gas-liquid chromatography of coumarin anticoagulants, their trimethylsilyl ethers, acetates, trichloroacetates, and trifluoroacetates. Journal of Chromatography 69(1):201-203.

005001754 Deckert, F.W. (1973) Ascorbic acid and warfarin [letter] Journal of the American Medical Association 223(4):440.

005002042 Deckert, F.W. (1973) Warfarin metabolism in the guinea pig. I. Pharmacological studies. Drug Metabolism and Disposition 1(5):704-710.

005002117 Deckert, F.W. (1974) Coumarin anticoagulants: a review of some current research areas. Southern Medical Journal 67(10):1191-1202.

005001750 Deckert, F.W.; Link, K.P. (1971) Partial fate of warfarin in the guinea pig. Acta Pharmacologica et Toxicologica, Supplementum 29(4):9.

005002045 Deckert, F.W.; Link, K.P. (1972) Influence of ascorbic acid on warfarin metabolism. Naunyn-Schmiedeberg's Archives of Pharmacology. Supplement 274:R27.

005001752 Deckert, F.W.; Remmer, H.K. (1972) In vitro inhibition of rat and human liver microsomal enzymes by 4-hydroxycoumarin anticoagulants and related compounds. Chemico-Biological Interactions 5(4):255-263.

005002595 De Clerck, F.; Goossens, J.; Reneman, R. (1976) Effects of anti-inflammatory, anticoagulant and vasoactive compounds on tail bleeding time, whole blood coagulation time and platelet retention by glass beads in rats. Thrombosis Research 8(2):179-193.

000002320 DeFeo, J.J. (1976) Multiple Dose Rodenticide Study: Report of Results for Zonfrilli Warfarin Test. (Unpublished study received Jun 10, 1976 under 34867-1; prepared by Univ. of Rhode Island, Dept. of Pharmacology and Toxicology, submitted by Vincent Zonfrilli, Providence, R.I.; CDL:224562-A)

005002044 De Gaetano, G.; Donati, M.B. (1977) Anticoagulants. Pages 251-269, *In* Monographs in Pharmacology and Physiology. Vol. 2. Drug Disposition During Development. Edited by P.L. Morselli. New York: Spectrum Publications.

005007460 De Nicola, P.; Fumarola, D.; De Rinaldis, P. (1964) Beeinflussung der gerinnungshemmenden Wirkung der indirekten Antikoagulantien durch die MAO-Inhibitoren. [The effect of monoamine oxidase inhibitors on the anticoagulant properties of indirect anticoagulants.] Thrombosis et Diathesis Haemorrhagica. Supplementum 12:125-127.

005002430 Deoras, P.J. (1966) Tolerance of an anticoagulant by *Rattus rattus* [letter]. Current Science 35(16):415-416.

005002627 Deoras, P.J. (1967) Tolerance status of some rats to an anticoagulant rat poison [letter]. Current Science 36(8):207-208.

005002043 De Oya, J.C.; Del Rio, A.; Noya, M.; Villanueva, A. (1971) Decreased anticoagulant tolerance with oxymetholone in paroxysmal nocturnal haemoglobinuria [letter] Lancet 2(718):259.

000002295 Derse, P. (1963) Warfarin plus Antibacterial Agents: [Effects on Rats]. (Unpublished study received Jan 12, 1963 under unknown admin. no.; submitted by Wisconsin Alumni Research Foundation, Madison, Wis.; CDL:104816-A)

005003208 Derse, P.H.; Hein, L.W.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1963) Rodenticide food bait containing anticoagulant and antibacterial agents. U.S. patent 3,113,071. Dec 3. 2 p. Cl. 167-46.

005005310 Deshmukh, N. (1975) A rare skin complication of coumadin therapy: a case report. Guthrie Bulletin 44(3):147-149.

005002112 De Swiet, J. (1975) Potentiation of warfarin by co-trimoxazole [letter] British Medical Journal 3(5981):491.

005002115 De Swiet, M.; Lewis, P.J. (1977) Excretion of anticoagulants in human milk [letter] New England Journal of Medicine 297(26):1471.

005001982 De Winter, M.L.; Zaagsma, J.; Nauta, W.T. (1977) Pharmacochemistry of 2-diarylmethyl-1,3-indandiones. V. Anticoagulant activity in vitro. European Journal of Medicinal Chemistry--Chimica Therapeutica 12(2):146-148.

005003295 DeWitt, J.B.; Bellack, E.; Klingensmith, C.W.; Ward, J.C.; Treichler, R. (1953) Relationship Between Chemical Structure and Toxic Action on Rats. Washington, D.C.: Chemical-Biological Coordination Center,National Research Council.

005002812 de Wolff, F.A.; Kempen, G.M.J. van; Loeliger, E.A.; Kassenaar, A.A.H.; Van der Slik, W. (1976) Identification and quantification of coumarin congeners in human plasma. Pages 121-125, In Drug Interference and Drug Measurement in Clinical Chemistry: Proceedings of the 3rd International Colloquium on Prospective Biology; 1975, Pont-a-Mousson, France. Basel, Switzerland: Karger.

005002008 Deykin, D. (1970) Warfarin revisited. New England Journal of Medicine 282(26):1486.

005001755 Deykin, D. (1970) Warfarin therapy (second of two parts). New England Journal of Medicine 283(15):801-803.

005005016 Dezelic, M.; Trkovnik, M. (1961) Ueber die polarographische Untersuchung der Cumarine. [Polarographic investigation of coumarins.] Croatica Chemica Acta 33:209-217.

005005714 Dezelic, M.; Trkovnik, M. (1963) Ueber die polarographische Untersuchung der Cumarine. II. [Polarographic investigation of coumarins. II.] Croatica Chemica Acta 35:43-49.

005003298 Dezelic, M.; Trkovnik, M.; Jovanovic, V. (1965) The anticoagulative action of 4-hydroxycumarine derivatives. Bulletin Scientifique, Conseil des Academies de la RSF de Yougoslavie, Section A 10(5):154.

005002232 Dialameh, G.H. (1978) Stereobiochemical aspects of warfarin isomers for inhibition of enzymatic alkylation of menaquinone-0 to menaquinone-4 in chick liver. International Journal of Vitamin and Nutrition Research 48(2):131-135.

005002046 Di Cato, M.A. (1975) Case report: "purple toes" syndrome--an uncommon complication of oral anticoagulant therapy. Postgraduate Medicine 58(7):133-134.

005004096 Didisheim, P. (1968) Inhibition by dipyridamole of arterial thrombosis in rats. Thrombosis et Diathesis Haemorrhagica 20(1/2):257-266.

005007513 Dijk-Wierda, C.A. van; Roos, J. (1973) Hebben coumarinen een schadelijk effect in de graviditeit. [The possible adverse effect of coumarin derivatives during pregnancy]. Nederlands Tijdschrift voor Geneeskunde 117(36):1362-1364.

005009465 Dillard, W.M., inventor; Richardson-Merrell Inc., assignee (1964) Perfectionnements apportes aux compositions toxiques pour la destruction de rongeurs. [Improvements made to toxic mixtures for the destruction of rodents.] Belgian brevet d'invention 642,725. Jul 22. 9 p.

005009815 Dimmick, R.W. (1973) Zinc phosphide and prolin for controlling prairie voles in Virginia pine plantations. Pages 293-295, In Proceedings of the 26th Annual Conference of the Southeastern Association of Game and Fish Commissioners.

005007512 Di Modugno, G.; Albano, G.A. (1972) Contributo alla conoscenza dell'intossicazione da warfarin nei volatili. [Contribution to the knowledge of warfarin poisoning in birds.] Acta Medica Veterinaria XVIII(V/VI):369-377.

005008248 Dizadji, H.; Hammer, R.; Strzyz, B.; Weisenberger, J. (1979) Spontaneous rupture of the liver: a complication of oral anticoagulant therapy. Archives of Surgery 114(6):734-735.

005002114 Dodsworth, E. (1952) "Warfarin"--a painless rat killer with no bait prejudice. Municipal Engineering and Sanitation Record 129:44-46.

005001981 Dollery, C.T. (1972) Enzyme induction. British Journal of Anaesthesia 44(9):961-966.

005002116 Donati, M.B.; Poggi, A.; Mussoni, L.; De Gaetano, G.; Garattini, S. (1977) Hemostasis and experimental cancer dissemination. Pages 151-160, *In* Progress in Cancer Research and Therapy. Vol. 5. Cancer Invasion and Metastasis: Biologic Mechanisms and Therapy. Edited by Stacey B. Day, W.P. Laird Myers, Philip Stansly, Silvio Garattini and Martin G. Lewis. New York: Raven Press.

005003519 Done, A.K. (1973) On being prepared. Emergency Medicine 5(10):284,287,290-291.

000002346 Dopples, C.C. (1971) Sample I.D. 1007: Colonial-42 Warfarin: Test No. 19. (Unpublished study received Dec 28, 1971 under 3941-21; prepared by Rocky Mountain College, Dept. of Biology, submitted by Athena Corp., Dallas, Tex.; CDL:025945-B)

005004333 Dougherty, E., III (1958) Toxicity of furazolidone and warfarin for ducklings. Pages 34, *In* Annual Report of the New York State Veterinary College, Cornell University, 1956-1957. Ithaca, N.Y.: Cornell University. (Abstract no. 65)

005002237 Drummond, D.C. (1966) Recent developments in the control of commensal rodents. Chemistry and Industry 32:1371-1375.

005001751 Drummond, D.C.; Rennison, B.D. (1973) The detection of rodent resistance to anticoagulants. Bulletin of the World Health Organization 48(2):239-242.

005001917 Drummond, D.C.; Wilson, E.J. (1968) Laboratory investigations of resistance to warfarin of *Rattus norvegicus* Berk. from Montgomeryshire and Shropshire. Annals of Applied Biology 61(2):303-312.

005008245 Duffield, A.M.; Duffield, P.H.; Birkett, D.J.; Kennedy, M.; Wade, D.N. (1979) Plasma quantitation of warfarin and warfarin alcohol by gas chromatography chemical ionization mass spectrometry in patients on warfarin maintenance therapy. Biomedical Mass Spectrometry 6(5):208-211.

005003632 Duffield, P.; Duffield, A.; Kennedy, M.; Birkett, D.J.; Wade, D.N. (1979) Warfarin levels in anticoagulated patients. Clinical and Experimental Pharmacology and Physiology 6(2):199-200.

005008246 Duffield, P.H.; Birkett, D.J.; Wade, D.N.; Duffield, A.M. (1979) Quantitation of plasma warfarin levels by gas chromatography chemical ionization mass spectrometry. Biomedical Mass Spectrometry 6(3):101-104.

005005710 Dukel'skaya, N.M.; Vcherushanskii, S.L. (1957) Varfarin--hovoe sredstvo bor'by s krysami. [Warfarin—a new means of rat control.] Veterinariya (Moscow). [Veterinary Science.] 34(3):72-74.

005005307 Dulock, M.A.; Kolmen, S.N. (1968) Influence of vitamin K on restoration of prothrombin complex proteins and fibrinogen in plasma of depleted dogs. Thrombosis et Diathesis Haemorrhagica 20(1/2):136-143.

005003297 Dulock, M.A.; Kolmen, S.N. (1970) Fibrinogen recovery in fibrinolytic dogs: influence of vitamin K. Thrombosis et Diathesis Haemorrhagica 23(1):58-63.

005003929 Dunk, M.R. (1951) Get rid of summer rats: details on how to use warfarin for rat control. Poultry Tribune 57(7):8-9,19.

005000681 Durairaj, G. (1976) Relative efficacy of rodenticides available in India. Indian Journal of Biochemistry and Biophysics Supplement 13(1):40.

005002238 Dvorchik, B.H.; Vesell, E.S. (1978) Significance of error associated with use of the one-compartment formula to calculate clearance of thirty-eight drugs. Clinical Pharmacology and Therapeutics 23(6):617-623.

005004095 Dykstra, W.W. (1950) New techniques and developments in rodent control. Pest Control 18(12):9-10,12,14,39.

000014336 Dyssegard, A. (1952) Intoxication with dicoumarin and its derivatives. Nordisk Veterinaermedicin 4( ):962-982. (Also In unpublished submission received Apr 27, 1953 under unknown admin. no.; submitted by ; CDL:105310-A)

000002855 E and P Supply Company (1955?) Toxicity: [Prolin]. (Unpublished study received Jul 17, 1970 under 8199-2; CDL:005987-A)

000002856 E and P Supply Company (1962) Prolin's Mode. (Unpublished study received Jul 17, 1970 under 8199-2; CDL:005987-B)

005011374 Eastham, R.D. (1972) The prevention of bleeding during long-term oral anticoagulant therapy. Bristol Medico-Chirurgical Journal 87(321):5-7.

005002246 Eble, J.N.; West, B.D.; Link, K.P. (1966) A comparison of the isomers of warfarin. Biochemical Pharmacology 15(7):1003-1006.

005006591 Edson, E.F. (1960) Applied toxicology of pesticides. Pharmaceutical Journal 185:361-367.

005002946 Edwards, M.S.; Curtis, J.R. (1971) Decreased anticoagulant tolerance with oxymetholone [letter]. Lancet 2(717):221.

005007095 Edwards, R.; Rickles, F. (1977) The effect of systemic anticoagulation on tests of delayed hypersensitivity [abstract]. Clinical Research 25(3):475.

005002711 Edwards, R.L.; Rickles, F.R. (1978) Delayed hypersensitivity in man: effects of systemic anticoagulation. Science 200(4341):541-543.

005013663 Eichbaum, F.W.; Slemer, O.; Zyngier, S.B. (1979) Anti-inflammatory effect of warfarin and vitamin-K_1. Naunyn-Schmiedeberg's Archives of Pharmacology 307(2):185-190.

005002976 Eipe, J. (1972) Drugs affecting therapy with anticoagulants. Medical Clinics of North America 56(1):255-262.

005002873 Eisen, M.J. (1964) Combined effect of sodium warfarin and phenylbutazone. Journal of the American Medical Association 189(1):64-65.

005008220 Eldore, A.; Zylber-Katz, E.; Kaplan De-Nour, A. (1979) Anticoagulant abuse: a psychotic syndrome* Journal of Nervous and Mental Disease 167(7):442-446.

005002943 Elliot, M.S.; Immelman, E.J.; Jeffery, P.; Benatar, S.R.; Funston, M.R.; Smith, J.A.; Jacobs, P.; Shepstone, B.J.; Ferguson, A.D.; Louw, J.H. (1978) Skin necrosis after warfarin therapy. South African Medical Journal 54(15):609-610.

005002861 Elliott, G.R.; Odam, E.M.; Townsend, M.G. (1976) An assay procedure for the vitamin K_1 2,3-epoxide-reducing system of rat liver involving high-performance liquid chromatography. Biochemical Society Transactions 4(4):615-617.

005003817 Elliott, R.B. (1977) Fetal abnormalities associated with warfarin therapy during early pregnancy. Current Therapeutics 18(5):13-14.

005011377 Elmer, G.W.; Powell, M.L.; Trager, W.F.; Pohl, L.R. (1977) Warfarin metabolism by rat intestinal microflora [abstract]. Lloydia 40(6):610-611.

005002945 Elster, B.B.; Eisenstadt, H.B. (1955) Liver function studies after prolonged coumarin therapy. Texas State Journal of Medicine 51:18-21.

005002596 Ensberg, I.F.G.; de Bruin, A.; Zielhuis, R.L. (1974) Health of workers exposed to a cocktail of pesticides. Internationales Archiv fuer Arbeitsmedizin 32(3):191-201.

005008761 Epoca, V. (1968) Reglamentacion sobre plaguicidas. [Regulation of pesticides.] Salud Publica de Mexico X(5):667-671.

005002775 Erdman, S.; Salomon, J.; Levy, M.J. (1976) Haemopericardium as a late complication in anticoagulant therapy following mitral valve replacement. Scandinavian Journal of Thoracic and Cardiovascular Surgery 10(3):205-207.

005005713 Ermakov, V.V.; Bolokhovets, M.F. (1977) Gazokhromatograficheskoe opredelenie zookumarina v biologicheskikh ob'ektakh. [Gas chromatographic determination of zoocoumarin in biological materials.] Khimiya v Sel'skom Khozyaistve. [Chemistry in Agriculture.] 15(7):44-45.

005004490 Erne, K. (1963) Detection and determination of chlorophenoxyacetic acid derivatives in water. Acta Chemica Scandinavica 17(6):1663-1676.

005003816 Ernster, L.; Lind, C.; Rase, B. (1972) A study of the DT-diaphorase activity of warfarin-resistant rats. European Journal of Biochemistry 25(1):198-206.

005002863 Errick, J.K.; Keys, P.W. (1978) Co-trimoxazole and warfarin: case report of an interaction. American Journal of Hospital Pharmacy 35(11):1399-1401.

005013838 Errick, J.K.; Keys, P.W. (1978) Co-trimoxazole and warfarin: case report of an interaction. American Journal of Hospital Pharmacy 35:1399-1401.

005002712 Eshaghy, B.; Loeb, H.S.; Miller, S.E.; Scanlon, P.J.; Towne, W.D.; Gunnar, R.M. (1973) Mediastinal and retropharyngeal hemorrhage: a complication of cardiac catheterization. Journal of the American Medical Association 226(4):427-431.

005006884 Esmon, C.T.; Grant, G.A.; Suttie, J.W. (1975) Purification of an apparent rat liver prothrombin precursor: characterization and comparison to normal rat prothrombin. Biochemistry 14(8):1595-1600.

005002777 Esmon, C.T.; Suttie, J.W. (1976) Vitamin K-dependent carboxylase: solubilization and properties. Journal of Biological Chemistry 251(20):6238-6243.

005013658 Esquivel, M.; Blaschke, T.F.; Snidow, G.H.; Meffin, P.J. (1978) Effect of phenobarbitone on the disposition of lignocaine and warfarin in the dog. Journal of Pharmacy and Pharmacology 30(12):804-805.

000002469 Evans, J.; Ward, A.L. (1967) Secondary poisoning associated with anticoagulant-killed nutria. Journal of the American Veterinary Medical Association 151(7):856-861. (Also *In unpublished submission received May 30, 1972 under unknown admin. no.; submitted by Velsicol Chemical Corp., Chicago, Ill.; CDL:230307-E)

005004099 Evans, W.E.; Self, T.H.; Greenblatt, D.J.; Miller, R.R. (1975) Chloral hydrate--warfarin interaction [letters]. American Journal of Hospital Pharmacy 32(3):241,243.

005002703 Everett, E.D.; Overholt, E.L. (1969) Hemorrhagic skin infarction secondary to oral anticoagulants. Archives of Dermatology 100(5):588-589,591.

005007048 Fairchild, E.J., ed. (1977) Agricultural Chemicals and Pesticides: A Subfile of the NIOSH Registry of Toxic Effects of Chemical Substances. Cincinnati, Ohio: National Institute for Occupational Safety and Health. (Pagination includes 46 pages numbered i-xlvi; available from: NTIS, Springfield, VA: PB-274 748)

005007962 Farnsworth, N.R.; Cordell, G.A. (1976) A review of some biologically active compounds isolated from plants as reported in the 1974-1975 literature. Lloydia 39(6):420-455.

005008249 Fasco, M.J.; Cashin, M.J.; Kaminsky, L.S. (1979) A novel method for the quantitation of warfarin and its metabolites in plasma. Journal of Liquid Chromatography 2(4):565-575.

005002862 Fasco, M.J.; Piper, L.J.; Kaminsky, L.S. (1977) Binding of R and S warfarin to hepatic microsomal cytochrome P-450. Archives of Biochemistry and Biophysics 182(2):379-389.

005004339 Fasco, M.J.; Piper, L.J.; Kaminsky, L.S. (1977) Biochemical applications of a quantitative high-pressure liquid chromatographic assay of warfarin and its metabolites. Journal of Chromatography 131:365-373.

005003099 Fasco, M.J.; Piper, L.J.; Kaminsky, L.S. (1977) Warfarin metabolism--a probe of hepatic cytochrome P-450 multiplicity. Federation Proceedings 36(3):844.

005003625 Fasco, M.J.; Piper, L.J.; Kaminsky, L.S. (1979) Cumene hydroperoxide-supported microsomal hydroxylations of warfarin--a probe of cytochrome P-450 multiplicity and specificity. Biochemical Pharmacology 28(1):97-103.

005004299 Fasco, M.J.; Vatsis, K.P.; Kaminsky, L.S.; Coon, M.J. (1978) Regio- and stereoselective hydroxylation of R and S warfarin bypurified forms of liver microsomal cytochrome P-450 (P-450LM). Federation Proceedings 37(6):1759.

005002776 Fasco, M.J.; Vatsis, K.P.; Kaminsky, L.S.; Coon, M.J. (1978) Regioselective and stereoselective hydroxylation of R and S warfarin by different forms of purified cytochrome P-450 from rabbit liver. Journal of Biological Chemistry 253(21):7813-7820.

005003617 Fehske, K.J.; Mueller, W.E.; Wollert, U. (1979) The participation of tryptophan and tyrosine residues of human serum albumin in the high affinity binding sites of dicoumarol and warfarin. Naun-Schmiedebergs Archives of Pharmacology. Supplement 307:10.

005002650 Feldman, S. (1974) Drug distribution. Medical Clinics of North America 58(5):917-926.

005005699 Felgel-Farnholz, R. von, inventor; (1976) Verfahren zum Herstellen eines Schaedlingsbekaempfungsmittels. [Process for the production of a pesticidal composition.] German (Fed. Rep.) offenlegungsschrift 25 15 639. Oct 14. 8 p. Int. Cl.2* A 01N 17/14.

005002710 Fell, S.C.; Rubin, I.L.; Enselberg, C.D.; Hurwitt, E.S. (1965) Anticoagulant-induced hemopericardium with tamponade: its occurrence in the absence of myocardial infarction or pericarditis. New England Journal of Medicine 272(13):670-674.

005003307 Fillmore, S.J.; McDevitt, E. (1970) Effects of coumarin compounds on the fetus. Annals of Internal Medicine 73(5):731-735.

005002982 Finn, S.L. (1978) Thermogravimetric analysis of sodium warfarin isopropanol clathrate (8:4:0). Dissertation Abstracts International B 38(12):5951.

005002714 Finney, L.A.; Gholston, D. (1967) Cerebral aneurysm rupture during anticoagulant therapy with survival. Journal of the American Medical Association 200(12):1127-1128.

005009218 Fishwick, F.B.; Taylor, A. (1967) The determination of warfarin in animal relicta. Analyst 92(1092):192-195.

005002244 Fishwick, F.B.; Taylor, A. (1967) The determination of warfarin in animal relicta. Analyst 92:192-195.

005007024 Fitzek, A.; Gembardt, C. (1977) Rodentizidintoxikation bei einer traechtigen Huendin. [Rodenticide intoxication in dogs.] Berliner und Muenchener Tieraerztliche Wochenschrift 90(5):98-100.

005000696 Fitzwater, W.D. (1956) Control of animal pests: part II. American Nurseryman 104(11):14,64-65.

005003829 Fitzwater, W.D., Jr. (1952) Warfarin and perimeter rodent control. Food Technology 6:436-438.

005015344 Flatmark, A.L. (1964) Fracture Union in the Presence of Delayed Blood Coagulation: a Clinico-experimental Investigation. Bergen, Norway: University of Bergen. (Acta Chirurgica Scandinavia, supplementum no. 344)

000002354 Florent M.L. Schruvers (1971) Dicusat--Techn. Grade. (Unpublished study received Oct 13, 1971 under 6720-171; prepared by Chemosweb AB, a subsidiary of Ferrosan--Sweden, submitted by Southern Mill Creek Products Co., Inc., Tampa, Fla.; CDL:102155-A)

005007509 Flores Crespo, R.; Ibarra, V.F.; De Anda, L.D. (1976) Vampirinip II. Un producto utilizable en tres metodos para el combate del murcielago hematofago. [Vampirinip II. A product that can be used in three ways for controlling the hematophagous bat.] Tecnica Pecuaria en Mexico 30:67-75.

005004098 Forbes, C.D.; Prentice, C.R.M.; Sclare, A.B. (1974) Surreptitious ingestion of warfarin. British Journal of Psychiatry 125:245-247.

005006887 Forbes, C.D.; Thomson, C.; Prentice, C.R.M.; McNicol, G.P.; McEwan, A.D. (1973) Experimental warfarin poisoning in the dog: platelet function, coagulation and fibrinolysis. Journal of Comparative Pathology 83(2):173-180.

005002787 Forfar, J.O.; Nelson, M.M. (1973) Epidemiology of drugs taken by pregnant women: drugs that may affect the fetus adversely. Clinical Pharmacology and Therapeutics 14(4):632-642.

005002713 Forman, W.B.; Shlaes, J. (1978) Comparison of high-performance liquid chromatography and a spectrophotometric technique for determining plasma warfarin. Journal of Chromatography 146(3):522-526.

005002871 Fourie, D.T.; Hay, I.T. (1975) Warfarin as a possible teratogen. South African Medical Journal 49(50):2081-2083.

005008022 Fowler, M.E. (1975) Toxicities in exotic and zoo animals. Veterinary Clinics of North America 5(4):685-698.

005014827 Frazier, S.G. (1966) A case report—poisoning in swine due to rodenticide contaminated feed. Georgia Veterinarian 18(5):27.

005003513 Frear, D.E.H. (1955) Chemistry of the Pesticides. 3rd ed. New York: D. Van Nostrand.

005002598 Fremont, R.E. (1964) Pharmacodynamics of parenteral and oral anticoagulants. Angiology 15(3):152-162.

005015301 Freundt, K.J. (1978) Arbeitsstoffe und Mikrosomenenzyme: Wechselwirkungen und ihre Bedeutung fuer das gesundheitliche Risiko. [Industrial materials and microsome enzymes: their interaction and significance for health.] Zentralblatt fuer Arbeitsmedizin Arbeitsschutz und Prophylaxe 28(12):337-347.

005005017 Frey, H. (1971) Versuche ueber den qualitativen Nachweis der Aufnahme von Warfarin beim Hund.] [Qualitative detection of ingested warfarin in dogs.] Kleintier-Praxis 16(4):100-102.

005002245 Fristedt, B.; Sterner, N. (1965) Warfarin intoxication from percutaneous absorption. Archives of Environmental Health 11:205-208.

005002930 Fristedt, B.; Sterner, N. (1965) Warfarin intoxication from percutaneous absorption. Archives of Environmental Health 11(2):205-208.

000002436 Fristedt, B.; Sterner, N. (1965) Warfarin intoxication from percutaneous absorption. Archives of Environmental Health 11(Aug): 205-208. (Also In unpublished submission received Nov 24, 1975 under 655-543; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-N)

005003938 Funnell, H.S.; Platonow, N. (1970) Determination of warfarin in liver tissue by gas chromatography. Journal of Forensic Sciences 15(4):601-604.

005002727 Furner, R.L.; Mellett, L.B. (1975) The effect of warfarin on the distribution of 1-beta-D-arabinofuranosylcytosine (ARA-C), 5-fluorouracil (5-FU), cyclophosphamide (CPA) and their metabolites in AKD 2_{F*1} mice bearing ridgway osteogenic sarcoma (ROS) tumors. Pharmacologist 17(2):201.

005001706 Gaines, T.B. (1951) The failure of the rodenticide warfarin to injure Oriental rat fleas when the poison is fed to the host rat. Journal of Parasitology 37:489-490.

000005467 Gaines, T.B. (1960) The acute toxicity of pesticides to rats. Toxicology and Applied Pharmacology 2(1):88-99. (Also *In unpublished submission received Feb 14, 1961 under PP0299; submitted by Chemagro Corp., Kansas City, Mo.; CDL:090320-Q)

005002272 Gaines, T.B. (1960) The acute toxicity of pesticides to rats. Toxicology and Applied Pharmacology 2:88-99.

005002261 Gallo, D.G.; Bailey, K.R.; Sheffner, A.L. (1964) The interaction between cholestyramine and drugs. Pages 60-65, In Proceedings--Society for Experimental Biology and Medicine. Vol. 120. New York: Academic Press.

005002058 Gallo, D.G.; Bailey, K.R.; Sheffner, A.L. (1965) The interaction between cholestyramine and drugs. Pages 60-65, In Proceedings--Society for Experimental Biology and Medicine. Vol. 120. New York: Academic Press.

005020085 Gallus, A.; Birkett, D. (1980) Sulphinpyrazone and warfarin: a probable drug interaction [letter]. Lancet 1(8167):535-536.

005003930 Ganguli, R.N.; Bhattacharji, D.R. (1969) Efficacy of warfarin for controlling rat menace in Tripura. Pesticides 3(2):29.

005003815 Garner, R.J. (1957) A spectroscopic study of the fate of warfarin and coumachlor in the rat. Nordisk Veterinaermedicin. [Scandinavian Veterinary Medicine.] 9:464-473.

005002267 Gaston, L.W.; Spivack, A.R. (1968) Preparation of canine factor VII deficient substrate plasma. Journal of Laboratory and Clinical Medicine 72(4):548-555.

005002435 Gavat, L.; Dinescu, M.; Iohan, F.; Susan, A.B. (1969) Thin-layer chromatography of 3-R-substituted derivatives of 14C-ring labelled 4-hydroxycoumarin. Journal of Radioanalytical Chemistry 2(5/6):435-438.

005010462 Geerling, J. (1968) De invloed van geneesmiddelen op de werking van stollingwerende middelen. [The influence of drugs on the activity of anticoagulants.] Nederlands Tijdschrift voor Geneeskunde 112(48):2202.

005002122 Gelehrter, T.D. (1976) Enzyme induction (second of three parts). New England Journal of Medicine 294(11):589-595.

005008221 Gelfand, R.; Mitani, G. (1979) Surreptitious use of warfarin. Journal of Nervous and Mental Disease 167(7):447-449.

005009944 Georgescu, V. (1956) Raticide eficace: antu si warfarin. Toxicitate si mod de actiune. [Antu and warfarin: effective rodenticides. Toxicity and mode of action.] Probleme Zootehnice si Veterinare. [Problems in Stockbreeding and Veterinary Science.] 8:22-26.

005012003 Gerisch, V.; Calsow, P.; Schlegelmilch, R. (1973) Beobachtungen zur chronischen Toxizitaet von Warfarin fuer Broilerkueken. [Observations on the chronic toxicity of warfarin to broiler chicks.] Monatshefte fuer Veterinaermedizin 28(2):51-54.

005007628 Giacoia, G.P.; Catz, C.S. (1979) Drugs and pollutants in breast milk. Clinics in Perinatology 6(1):181-196.

005005637 Giannini, D.D.; Chan, K.K.; Roberts, J.D. (1974) Carbon-13 nuclear magnetic resonance spectroscopy. Structure of the anticoagulant warfarin and related compounds in solution (coumarin-related compounds/phenprocoumon). Proceedings of the National Academy of Sciences 71(10):4221-4223.

005002268 Gibaldi, M.; McNamara, P.J. (1977) Tissue binding of drugs [letter]. Journal of Pharmaceutical Sciences 66(8):1211-1212.

005005117 Gibson, R.L.; Milby, T.H. (1964) Pesticides. Pages 243-250, In Occupational Diseases: A Guide to Their Recognition. Washington, D.C.: U.S. Department of Health, Education and Welfare. (U.S. Public Health Service publication no. 1097)

005010038 Giesberger, G.; Jacobs, K.F. (1953) Bestrijding van ratten en muizen met behulp van het nieuwe rodenticide "Warfarin". [Control of rats and mice with the help of the new rodenticide "warfarin".] Bergcultures. [Mountain Cultivation.] 22(14):281,283.

005002441 Gillogly, L.R. (1952) Studies of warfarin rat poison. California Department of Agriculture Bulletin 41(3):139-143.

005005427 Girish, G.K.; Jain, S.K.; Arora, K.K. (1975) Studies on rodents and their control. Part XII: Studies on rat control in a village with anticoagulant 13(2):73-77.

005020218 Girish, G.K.; Jain, S.K.; Arora, K.K. (1977) Studies on rodents and their control: Part XI. Studies on the rodenticide anticoagulant. Pages 187-189, *In* Proceedings--All India Rodent Seminar; 1975. Edited by K. Krishnamurthy, G.C. Chaturvedi and I. Prakash. Sidhpur, India: Rodent Control Project.

005000623 Girish, G.K.; Singh, K.; Srivastava, P.K.; Krishnamurthy, K. (1972) Studies on rodents and their control: Part VIII. Susceptibility of *Rattus rattus* to different anticoagulants. Bulletin of Grain Technology 10(2):113-115.

005005619 Giroux, P.; Dufault, C.; Bernier, J. (1967) Hematome pharyngolarynge asphyxiant durant l'anticoagulotherapie. [Asphyxiating pharyngolaryngeal hematoma during anticoagulation therapy.] Canadian Medical Association Journal 97(4):185-186.

005005018 Giuran, V. (1972) Consideratii asupra determinarii spectrofotometrice directe in ultraviolet a varfarinei din aer. [Direct spectrophotometric determination in ultraviolet light of warfarin in the air.] Igiena. [Hygiene.] XXI(8):481-488.

005001764 Glaves, D.; Weiss, L. (1978) Initial tumor cell arrest in animals of defined coagulative status. International Journal of Cancer 21(6):741-746.

005005426 Go, M. (1973) Clot promoting activity and activities of clotting factors in lyophilized serum. Tohoku Journal of Experimental Medicine 111(2):137-146.

005001847 Goding, L.A.; West, B.D. (1969) Synthesis and relative urinary excretion rates of the enantiomers of warfarin-4-14C and phenprocoumon-2-14C 12(3):517-518.

005013654 Goldsmith, J.C.; Drossman, D.A.; Blatt, P.M. (1979) Hemobilia complicating warfarin therapy. Southern Medical Journal 72(6):748-750.

005002536 Gooch, W.M., III; McLendon, R.E.; Parvey, L.S.; Wilroy, R.S. (1978) Warfarin embryopathy: longitudinal and postmortem examination. Clinical Research 26(1):74A.

005002273 Gooding, C.D. (1963) Anticoagulants for the control of rats and mice. Western Australia Department of Agriculture Journal, Series 4 4(6):388-390,393-394.

005002444 Goodman, D.H. (1958) Early clue to visceral carcinoma-hemorrhage after intravenously given warfarin. Journal of the American Medical Association 166(9):1037-1040.

005001763 Goodwin, R.H.; Kavanagh, F. (1952) The fluorescence of coumarin derivates as a function of pH. II. Archives of Biochemistry and Biophysics 36(2):442-455.

005002283 Gordon, D.M.; Mead, J. (1967) Retinal hemorrhage with visual loss during anticoagulant therapy: case report. Journal of the American Geriatrics Society 16(1):99-100.

005003225 Gore, R.C.; Hannah, R.W.; Pattacini, S.C.; Porro, T.J. (1971) Infrared and ultraviolet spectra of seventy-six pesticides. Journal of the Association of Official Analytical Chemists 54(5):1040-1052.

005020221 Gore, R.C.; Hannah, R.W.; Pattacini, S.C.; Porro, T.J. (1971) Infrared and ultraviolet spectra of seventy-six pesticides. Journal of the Association of Official Analytical Chemists 54(5):1040-1082.

005010954 Goto, S.; Hara, T.; Yoshitomi, H. (1976) [Dynamic dialysis method. III. Effect of sulfonamides on the binding of warfarin with bovine serum albumin.] Yakugaku Zasshi. [Journal of the Pharmaceutical Society of Japan.] 96(5):565-570.

005002270 Gottesman, J.R.; Miday, R.; Couri, D. (1971) Effect of various indirect acting anticoagulants on glucuronyl transferase. Pharmacologist 13(2):245.

005002059 Gottfried, S.; Parke, D.V.; Sacra, P.J.; Thornton, P.C. (1977) Studies of the interaction of carbenoxolone sodium and warfarin sodium in vivo. British Journal of Pharmacology 60(2):280P-281P.

005002061 Gould, L.; Michael, A.; Fisch, S.; Gomprecht, R.F. (1972) Prothrombin levels maintained with meprobamate and warfarin: a controlled study. Journal of the American Medical Association 220(11):1460-1462.

005002438 Gralla, E.J. (1975) Pharmacological concepts of drug interaction. Veterinary Toxicology 17(3):84-88.

000005820 Great Britain. Inter-Governmental Maritime Consultative Organization (1971) Recommendations on the Safe Use of Pesticides in Ships. London: IMCO. (Also *In* unpublished submission received on unknown date under 5857-1; submitted by Phostoxin Sales, Inc., Alhambra, Calif.; CDL:238189-C)

005002123 Greaves, J. (1972) How super rats survive. New Scientist 56(816):156-158.

005001762 Greaves, J.H. (1970) Warfarin-resistant rats. Agriculture (London) 77(3):107-110.

005003304 Greaves, J.H.; Ayres, P. (1969) Linkages between genes for coat colour and resistance to warfarin in *Rattus norvegicus* . Nature 224(216):284-285.

005006355 Greaves, J.H.; Ayres, P. (1969) Some rodenticidal properties of coumatetralyl. Journal of Hygiene 67(2):311-315.

005002436 Greaves, J.H.; Ayres, P. (1973) Warfarin resistance and vitamin K requirement in the rat. Laboratory Animals 7(2):141-148.

005002442 Greaves, J.H.; Ayres, P.B. (1976) Inheritance of Scottish-type resistance to warfarin in the Norway rat. Genetical Research 28(3):231-239.

005002443 Greaves, J.H.; Ayres, P.B. (1977) Unifactorial inheritance of warfarin resistance in *Rattus norvegicus* from Denmark. Genetical Research 29(3):215-222.

005004580 Greaves, J.H.; Lind, C.; Rase, B.; Enander, K. (1973) Warfarin resistance and DT diaphorase activity in the rat. FEBS Letters 37(2):144-146.

005002057 Greaves, J.H.; Redfern, R.; Anasuya, B. (1976) Inheritance of resistance to warfain in *Rattus rattus* L. Journal of Stored Products Research 12(4):225-228.

005002126 Greaves, J.H.; Redfern, R.; Ayres, P.B.; Gill, J.E. (1977) Warfarin resistance: a balanced polymorphism in the Norway rat. Genetical Research 30(3):257-263.

005002529 Greaves, J.H.; Redfern, R.; King, R.E. (1974) Some properties of calciferol as a rodenticide. Journal of Hygiene 73(3):341-351.

005002530 Greaves, J.H.; Rehman, A.B. (1977) The susceptibility of *Tatera indica* , *Nesokia indica* and *Bandicota bengalensis* to three anticoagulant rodenticides. Journal of Hygiene 78(1):75-84.

005002437 Greaves, J.H.; Rennison, B.D. (1973) Population aspects of warfarin resistance in the Brown rat, *Rattus norvegicus* . Mammalian Review 3(2):27-29.

005002282 Greaves, J.H.; Rennison, B.D.; Redfern, R. (1973) Warfarin resistance in the ship rat in Liverpool. International Pest Control 15(2):17.

005002269 Greaves, J.H.; Rennison, B.D.; Redfern, R. (1976) Resistance of the ship rat, Rattus rattus L. to warfarin. Journal of Stored Products Research 12(2):65-70.

005018663 Green, M.B. (1977) Chemicals used against vertebrates. Pages 95-100, In Chemicals for Crop Protection and Pest Control. Oxford, England: Pergamon Press.

005002281 Green, P. (1955) Haemorrhagic diathesis attributed to "warfarin" poisoning. Canadian Medical Association Journal 72:769-770.

005012724 Greenlaw, C.W.; Keys, P.W. (1979) Drug interaction between co-trimoxazole and warfarin [letters]. American Journal of Hospital Pharmacy 36(9):1155-1156.

005002533 Greer, F.G. (1960) Warfarin poisoning in pigs [letter]. Veterinary Record 72(1):18.

005002532 Griffin, J.P.; D'Arcy, P.F. (1974) Drug interactions: 3. With alcohol. Prescribers Journal 14(3):55-58.

005013521 Grigg, G.W. (1978) Genetic effects of coumarins. Mutation Research 47:161-181.

005002531 Griminger, P. (1965) Vitamin K activity in chickens: phylloquinone and menadione in the presence of stress agents. Journal of Nutrition 87(3):337-343.

005004404 Griner, P.F.; Raisz, L.G.; Rickles, F.R.; Wiesner, P.J.; Odoroff, C.L. (1971) Chloral hydrate and warfarin interaction: clinical significance. Annals of Internal Medicine 74(4):540-543.

005002534 Gripper, J. (1973) The frequency of animal poisoning by warfarin [letter]. Veterinary Record 93(5):148.

005001100 Grolleau, G.; Paris, G. (1975) Essais d'intoxication de la perdrix grise, Perdix perdix L. et de la perdrix rouge, Alectoris rufa L. a l'aide de differents produits anticoagulants derives de l'hydroxycoumarine et de l'indanedione. [Trials of poisoning of gray partridge, Perdix perdix L. and red partridge, Alectoris rufa L. by different anticoagulants derived from hydroxycoumarin and indandione.] Annales de Zoologie--Ecologie Animale 7(4):557-562.

005005716 Grolleau, G.; Paris, G. (1975) Essais d'intoxication du canard col-vert Anas platyrhynchos L. a l'aide du coumafene et du chlorophacinone. [Trials of intoxication of green collared duck, Anas platyrhynchos L. with coumaphene and chlorophacinone.] Annales de Zoologie--Ecologie Animales 7(4):553-556.

005008537 Gross, B.; Baker, R.H.; Bonnet, D.D. (1951) Use of warfarin-treated oats as a plague suppressive measure in Hawaii. Public Health Reports 66:1727-1733.

005002271 Gross, B.; Baker, R.H.; Bonnett, D.D. (1951) Use of warfarin-treated oats as a plague suppressive measure in Hawaii. Public Health Reports 66(52):1727-1733.

005005981 Grylls, F.S.M., inventor; Distillers Co. (Yeast) Ltd., assignee (1978) Rodentizide Zusammensetzung und Verfahren zu deren Herstellung. [Rodenticidal preparations and methods for their preparation.] German (Fed. Rep.) offenlegungsschrift 27 45 203. Apr 13. 10 p. Int. Cl.2* A 01N 9/02; A 01N 9/24.

005009945 Grzyb-Skorzynska, K. (1966) Fotometryczne oznaczenie warfaryny w surowicy krwi. [Photometric determination of warfarin in blood serum.] Przeglad Lekarski. [Medical Review.] 22(11):718-720.

000002293 Gustafson, A.A. (1973) Lystads Rat & Mouse Killer Contains Warfarin. (Unpublished study received Aug 6, 1973 under 2881-54; prepared by Aglab Associates, submitted by Lystad, Inc., Grand Forks, N. Dak.; CDL:220588-A)

005005620 Gutman, E.A. (1972) Pishchevaya primanka iz svezhykh pomidorov s zookumarinom dlya unichtozheniya gryzunov. [Fresh tomatoes with zoocoumarin as food bait for eradicating rodent pests in meat processing plants.] Veterinariya. [Veterinary Science.] (5):24-25.

005002546 Haas-Weston, C.F. (1971) Anticoagulants and their site of action. Southwestern Medicine 52(6):119-126.

000004154 Haberman, W.O.; Berg, A.J.; Harfst, L.G. (1978) Final Report: Rodenticide Testing: S.R. Project 62. (Unpublished study received Jun 14, 1978 under 602-255; submitted by Ralston Purina Co., St. Louis, Mo.; CDL:233448-B)

005009405 Hachet, M.P. (1955) Deratisation et anticoagulants. [Rat control and anticoagulants.] Bulletin de la Societe de Pharmacie de Nancy (25):20-32.

005003518 Haddock, R.E.; Trager, W.F.; Pohl, L.R. (1975) Biotransformation of phenprocoumon in the rat. Journal of Medicinal Chemistry 18(5):519-523.

005002542 Hadler, M.R. (1975) A weapon against the resistant rat. Pesticides 9(9):63-65.

000002465 Hadler, M.R. (1977) Factors Influencing the Palatability of Warfarin Baits: Sorex (London) Limited Agricultural Research Experimental Note. (Unpublished study received Dec 14, 1978 under unknown admin. no., prepared by Sorex (London), Ltd., submitted by ; CDL:236617-A)

005002300 Hadler, M.R.; Shadbolt, R.S. (1975) Novel 4-hydroxycoumarin anticoagulants active against resistant rats. Nature (London) 253(5489):275-277.

005011214 Hadler, M.R., inventor; Ward Blenkinsop and Co., assignee (1973) Rodenticide Mittel. [Rodenticidal agents.] German (Fed. Rep.) offenlegungsschrift 2,310,636. Sep 20. 18 p. Int. Cl. A 01n 9/00.

005002258 Hagan, E.C.; Radomski, J.L. (1953) The toxicity of 3-(acetonylbenzyl)-4-hydroxycoumarin (warfarin) to laboratory animals. Journal of the American Pharmaceutical Association, Scientific Edition XLII(6):379-382.

005005621 Hagnevik, K.; Kockum, C. (1974) Interaktioner vid behandling av trombossjukdomar. [Drug interactions in the treatment of thrombotic diseases.] Opuscula Medica 19(37):45-48.

005005638 Hahn, F.E. (1976) Antimutagens and the prevention of chromosomal mutations to drug resistance. Antibiotics and Chemotherapy 20:112-132.

005002543 Hale, J.E. (1975) Intramural intestinal haemorrhage: a complication of anticoagulant therapy. Postgraduate Medical Journal 51(592):107-110.

005002278 Hall, J.G. (1976) Embryopathy associated with oral anticoagulant therapy. Birth Defects: Original Article Series XII(5):33-37.

005003616 Hallett, J.J.; Holmes, L.B. (1979) An in vitro model for warfarin teratogenesis. Pediatric Research 13(4):486.

005005702 Halpern, B.; Lagrue, G.; Bariety, J.; Morard, J.C.; Fray, A. (1967) Recherches sur les nephrites hetero-immunes experimentales. II.--Prevention par les agents immuno-suppresseurs et par certains anticoagulants. [Studies of experimental hetero-immune nephritis. II.--Prevention by immuno-suppressive agents and certain anticoagulants.] Pathologie et Biologie 15(7/8):373-377.

005002054 Hamblin, T.J. (1971) Interaction between warfarin and phenformin [letter] Lancet 2:1323.

000002837 Hammann, W.C.; Schisla, R.M. (1969) Comparative Evaluation of a New Rodenticide Containing a Taste Enhancer--Final TM: Rpt. No. 21. (Unpublished study received Jun 26, 1969 under 10219-7; prepared by Monsanto Co., submitted by Everlab Co., Inc., St. Louis, Mo.; CDL:004870-A)

005002275 Hampton, J.W. (1974) Anticoagulant therapy: through a glass darkly. American Family Physician 9(2):100-104.

005003387 Hanna, S.; Rosen, M.; Eisenberger, P.; Rasero, L.; Lachman, L. (1978) GLC determination of warfarin in human plasma. Journal of Pharmaceutical Sciences 67(1):84-86.

005002292 Hansen, J.M.; Siersbaek-Nielsen, K.; Skovsted, L. (1971) Carbamazepine-induced acceleration of diphenylhydantoin and warfarin metabolism in man. Clinical Pharmacology and Therapeutics 12(3):539-543.

005002288 Hansen, J.M.; Siersbaek-Nielsen, K.; Skovsted, L.; Kampmann, J.P.; Lumholtz, B.; Hassall, C.; Feetam, C.L.; Leach, R.H.; Meynell, M.J. (1975) Potentiation of warfarin by co-trimoxazole [letters]. British Medical Journal 2(5972):684.

005002544 Hardisty, C.A. (1978) Dermal gangrene. A rare complication of warfarin therapy. Postgraduate Medical Journal 54(628):123-126.

000002419 Harfst, L.G. (1974) Rodenticide Bait Test: [Warfarin on White Rats, Norway Rats and White Mice]. (Unpublished study received Dec 5, 1974 under 602-255; submitted by Ralston Purina Co., St. Louis, Mo.; CDL:028548-B)

005005718 Harlay, A. (1974) Les anticoagulants. [The anticoagulants.] Infirmiere Francaise (157):5-9.

005002301 Harris, W.F. (1975) Clinical toxicities of dogs. Veterinary Clinics of North America 5(4):605-622.

005009214 Hartshorn, E.A. (1972) Pyrazolone derivatives (antipyrine, aminopyrine, phenylbutazone, oxyphenbutazone). Drug Intelligence and Clinical Pharmacy 6(1):6-10.

005002062 Hashimoto, A.; Driscoll, R.W.; Bonier, A.; Silverman, D. (1970) Coumadin-induced intestinal obstruction: case report with surgical intervention. Journal of the American Osteopathic Association 70(3):233-237.

005002439 Hasselbacher, P.; Schimmer, B.M.; Weinberger, A. (1978) Hemarthrosis with sodium warfarin and heparin [letter]. Arthritis and Rheumatism 21(6):740.

005003305 Haugen, J. (1972) Haematological changes after injection of endotoxin into warfarin-treated rabbits. Acta Pathologica et Microbiologica Scandinavica, Section B 80(4):589-598.

005004759 Haugen, J. (1972) Intravascular clearance of endotoxin in warfarin-treated rabbits: the influence of immune serum on clearance and distribution. Acta Pathologica et Microbiologica Scandinavica, Section B 80(3):420-430.

005002287 Haworth, E.; Burroughs, A.K. (1977) Disopyramide and warfarin interaction. British Medical Journal 2(6091):866-867.

005002537 Hayes, M.J.; Langman, M.J.S.; Short, A.H. (1975) Changes in drug metabolism with increasing age: 1. Warfarin binding and plasma proteins. British Journal of Clinical Pharmacology 2(1):69-72.

005004252 Hayes, W.J., Jr. (1950) Present status of warfarin as a rodenticide. CDC Bulletin 9(8):28-29.

005002064 Hayes, W.J., Jr. (1967) The 90-dose LD50 and a chronicity factor as measures of toxicity. Toxicology and Applied Pharmacology 11:327-335.

005001251 Hayes, W.J., Jr. (1969) Pesticides and human toxicity. Annals of the New York Academy of Sciences 160(1):40-54.

000002435 Hayes, W.J., Jr.; Gaines, T.B. (1950) Control of Norway rats with residual rodenticide warfarin. Public Health Reports 65(47): 1537-1555. (Reprint No. 3058; available from: Superintendent of Documents, U.S. Government Printing Office, Washington, DC; also * In unpublished submission received Nov 24, 1975 under 655-543; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-L)

005002545 Hayes, W.J., Jr.; Gaines, T.B. (1959) Laboratory studies of five anticoagulant rodenticides. Public Health Reports 74(2):105-113.

005003391 Hayes, W.J., Jr.; Vaughn, W.K. (1977) Mortality from pesticides in the United States in 1973 and 1974. Toxicology and Applied Pharmacology 42(2):235-252.

000002444 Heberling, A. (1969) Shelf Life Data for Common Sense Rat Preparation # 3. (Unpublished study received Jan 2, 1970 under 401-44; submitted by Common Sense Manufacturing Co., Inc., Buffalo, N.Y.; CDL:003286-A)

000002456 Hein, L. (1965) Assay Report: Prolin Water Soluble--Microorganism Inhibition. (Unpublished study received Oct 4, 1966 under 432-346; prepared by Wisconsin Alumni Research Foundation, submitted by Penick Corp., Lyndhurst, N.J.; CDL:026848-A)

000002325 Hein, L.; Derse, P.; Krieger, C. H. (1952) Tomorin (Link), Tomorin (Geigy Rodenticide Exp. 332), and Warfarin: Biological Studies: Third Progress Report. (Unpublished study received Mar 17, 1952 under unknown admin. no.; prepared by Wisconsin Alumni Research Foundation, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:104673-C)

000002839 Hein, L.; Derse, P.; Krieger, C.H. (1952) Warfarin and Tomorin Biological Studies: Fourth Progress Report. (Unpublished study received Feb 20, 1952 under unknown admin. no.; prepared by Wisconsin Alumni Research Foundation, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:104665-A)

000002838 Hein, L.; Koch, R.; Krieger, C.H. (1952) Tomorin, Cumopyrin, Warfarin and the Methoxy Derivative of Warfarin: Biological Studies. (Unpublished study including second progress report, received Mar 17, 1952 under unknown admin. no., prepared by Wisconsin Alumni Research Foundation, submitted by Ciba-Geigy Corp., Greensboro, N.C.; CDL:104673-B)

000002847 Hein, L.; Krieger, C.H. (1952) Water Bait Acceptability Tests: [Warfarin]. (Unpublished study received Apr 7, 1952 under 3282-6; prepared by Wisconsin Alumni Research Foundation, submitted by d-Con Co., Inc., New York, N.Y.; CDL:008781-A)

005002252 Heisey, S.R.; Saunders, J.P.; Olson, K.C. (1956) Some anticoagulant properties of 2-acyl-1,3-indandiones and warfarin in rabbits. Journal of Agricultural and Food Chemistry 4(2):144-147.

005002274 Hellemans, J.; De Vreker, R.; Vorlat, M.; Verstraete, M. (1963) Turnover of prothrombin and factors VII, IX and X in states of hypocoagulability. Acta Haemotologica 30(1):35-41.

005002597 Hellerstein, L.J.; Deykin, D. (1971) Hepatitis after Konyne administration [letter]. New England Journal of Medicine 284(18):1039-1040.

005002131 Hellmann, K. (1977) Selective antimetastatic treatment. Pages 213-224, In Secondary Spread in Breast Cancer. Edited by B.A. Stoll. Chicago, Ill.: William Heinemann Medical Books. (New Aspects of Breast Cancer, vol. 3)

005002063 Henderson, R.P. (1965) Radiologic seminar XLII: bilateral subdural hematomas. Journal of the Mississippi State Medical Association 6(10):382-383.

005005682 Henry, J. (1968) La lutte contre les rats par les anticoagulants. [Rat control with anticoagulants.] Science Progres, la Nature (3398):230-231.

005005976 Herman, G.E.; Seegers, W.H.; Henry, R.L. (1978) Effects of autoprothrombin II-A on epinephrine-induced platelet aggregation of normal- and coumadin-treated dogs. Thrombosis and Haemostasis 40(1):61-65.

005003087 Hermodson, M.A. (1968) Biochemical Studies on Warfarin. I. The Metabolism of 4-C14-Warfarin Sodium in the Rat. II. Heritable Tolerance to Warfarin in the Rat and in Man: Doctoral Dissertation. Madison, Wis.: University of Wisconsin. (Available from: University Microfilms, Ann Arbor, MI: order no. 68-17,902)

005002528 Hermodson, M.A.; Barker, W.M.; Link, K.P. (1971) Studies on the 4-hydroxycoumarins. Synthesis of the metabolites and some other derivatives of warfarin. Journal of Medicinal Chemistry 14(2):167-169.

005002080 Hermodson, M.A.; Suttie, J.W.; Link, K.P. (1969) Warfarin metabolism and vitamin K requirement in the warfarin-resistant rat. American Journal of Physiology 217(5):1316-1319.

005002294 Hermodson, M.A.; Suttie, J.W.; Link, K.P. (1969) Warfarin resistance in the rat. Federation Proceedings 28(2):386.

005002129 Hewick, D.; Moreland, T.; Shepherd, A.M.M.; Stevenson, I.H. (1975) The effect of age on sensitivity to and handling of warfarin sodium. Clinical Science and Molecular Medicine 49(3):13P.

005002390 Hewick, D.S. (1972) The plasma half-lives of the enantiomers of warfarin in warfarin-resistant and warfarin-susceptible rats [letter]. Journal of Pharmacy and Pharmacology 24(8):661-662.

005002391 Hewick, D.S.; McEwen, J. (1973) Plasma half-lives, plasma metabolites and anticoagulant efficacies of the enantiomers of warfarin in man. Journal of Pharmacy and Pharmacology 25(6):458-465.

005002284 Hewick, D.S.; Moreland, T.A. (1975) An NADPH dependent warfarin reductase in human and rat liver and kidney soluble fraction. British Journal of Pharmacology 53(3):441P.

005002538 Hewick, D.S.; Moreland, T.A.; Shepherd, A.M.M.; Stevenson, I.H. (1975) The effect of age on the sensitivity to warfarin sodium. British Journal of Clinical Pharmacology 2(2):189P-190P.

005005975 Higashi, H.; Heidelberger, C. (1971) Lack of effect of warfarin (NSC-59813) alone or in combination with 5-fluorouracil (NSC-19893) on primary and metastatic L1210 leukemia and adenocarcinoma 755. Cancer Chemotherapy Reports, Part 1 55(1):29-33.

005006269 Higuchi, S. (1955) [On the effects of control by rodenticide "warfarin" in field.] Ringyo Shikenjo Kenkyu Hokoku. [Bulletin of the Forestry Experiment Station.] (81):75-80.

005002293 Hilgard, P.; Thornes, R.D. (1976) Anticoagulants in the treatment of cancer. European Journal of Cancer 12(10):755-762.

005002541 Hill, R.B.; Gaetani, S.; Paolucci, A.M.; RamaRao, P.B.; Alden, R.; Ranhotra, G.S.; Shah, D.V.; Shah, V.K.; Johnson, B.C. (1968) Vitamin K and biosynthesis of protein and prothrombin. Journal of Biological Chemistry 243(14):3930-3939.

005001761 Hill, R.B.; Paul, F.; Johnson, B.C. (1966) Oxygen consumption and NADPH oxidation in microsomes from vitamin K-deficient, warfarin- and dicumarol-treated rats. Pages 1287-1290, In Proceedings--Society for Experimental Biology andMedicine. Vol. 121. New York: Academic Press.

005018487 Himbert, J.; See, E.; Thiroloix, P.; Lenegre, J. (1971) Traitements anticoagulants et hemorragies digestives. [Anticoagulant treatment and gastrointestinal hemorrhage.] Annales de Medecine Interne. [Annals of Internal Medicine.] 122(11):1055-1064.

005001821 Hirsh, J.; Cade, J.F.; Gallus, A.S. (1970) Fetal effects of coumadin administered during pregnancy. Blood 36(5):623-627.

005002299 Hiskey, C.F.; Melnitchenko, V. (1965) Clathrates of sodium warfarin. Journal of Pharmaceutical Sciences 54(9):1298-1302.

005002286 Hoffbrand, B.I. (1974) Interaction of nalidixic acid and warfarin [letter]. British Medical Journal 2(920):666.

005002285 Hoffbrand, B.I.; Kininmonth, D.A. (1967) Potentiation of anticoagulants [letter]. British Medical Journal 2(555):838-839.

005001759 Holcenberg, J.S.; Bidgood, M.; Dixon, R.L. (1969) Studies on the possible therapeutic interaction between cyclamate and warfarin. Current Therapeutic Research, Clinical and Experimental 11(9):577-584.

005002276 Hollander, P.M.; Ernster, L. (1975) Studies on the reaction mechanism of DT diaphorase: action of dead-end inhibitors and effects of phospholipids. Archives of Biochemistry and Biophysics 169(2):560-567.

005002130 Hollifield, H.C.; Winefordner, J.D. (1967) Fluorescence and phosphorescence characteristics of anticoagulants: a new approach to direct measurement of drugs in whole blood. Talanta 14(1):103-107.

005002392 Hollingsworth, M. (1977) Drugs and the expectant mother. Update 14(9):1007-1008,1010,1012.

005002540 Hollmann, M.; Steinberg, D. (1968) Hyperlipoproteinemia in rabbits induced by intravenous administration of fat emulsions and heparin. Journal of Atherosclerosis Research 8(1):1-20.

005009217 Holmes, L.B. (1975) Prospective evaluation of newborns for malformations caused by putative teratogens. Teratology 11(2):22.

005003434 Holmes, L.B.; Moser, H.W.; Halldorsson, S.; Mack, C.; Pant, S.S.; Matzilevich, B. (1972) Acquired conditions associated with mental retardation. Pages 117-143, In Mental Retardation: An Atlas of Diseases with Associated Physical Abnormalities. New York: Macmillan Publishing Co.

005002296 Holmes, R.W.; Love, J. (1952) Suicide attempt with warfarin, a bishydroxycoumarin-like rodenticide. Journal of the American Medical Association 148(11):935-937.

005003388 Holzgreve, W.; Carey, J.C.; Hall, B.D. (1976) Warfarin-induced fetal abnormalities [letter]. Lancet 2(7991):914-915.

005017606 Hood, T.R.; Wright, E. (1954) Poisonings with the newer pesticide compounds. Journal of the Kansas Medical Society 55:384-387.

005002547 Hooven, E. (1975) Baiting to Reduce Losses of Conifer Seeds to Small Forest Animals. Corvallis, Ore.: Oregon State University, School of Forestry,Forest Research Laboratory. (School of Forestry, Forest Research Laboratory, Oregon State University, Corvallis, Oregon, research note no. 55)

005002290 Hoover, H.C., Jr.; Ketcham, A.S. (1975) Techniques for inhibiting tumor metastases. Cancer 35(1):5-14.

005002291 Hoover, H.C., Jr.; Ketcham, A.S.; Millar, R.C.; Gralnick, H.R. (1978) Osteosarcoma: improved survival with anticoagulation and amputation. Cancer 41(6):2475-2480.

005002298 Hopes, T. (1973) Reporting on drugs, miscellaneous. Journal of the Association of Official Analytical Chemists 56(2):260-263.

005008084 Hornstein, I. (1958) Spectrophotofluorometry for pesticide determinations. Journal of Agricultural and Food Chemistry 6(1):32-34.

005003389 Horsfall, W.R. (1957) Prothrombin depressants and sodium fluoracetate in rat control. Medical Journal of Australia 2(15):542-544.

005009213 Hotraphinyo, K.; Triggs, E.J.; Maybloom, B.; McLean-Cross, A. (1978) The effect of age on the pharmacokinetics of warfarin sodium. Clinical and Experimental Pharmacology and Physiology 5(3):248-249.

005002289 Howard, R.T. (1952) No need now to build a better mousetrap. Canadian Chemical Processing 36(5):98,100.

005009216 Howarth, D.J.; Brozovic, M.; Stirling, Y.; Reed, M. (1974) Factor VII during warfarin treatment. Scandinavian Journal of Haematology 12(5):346-354.

005002128 Howie, J.G.R.; Jeffers, T.A.; Millar, H.R.; Petrie, J.C. (1977) Prevention of adverse drug interactions. British Journal of Clinical Pharmacology 4(5):611-614.

005002039 Hrdina, P.; Kovalcik, V. (1963) The influence of morphine and pethidine on the hypoprothrombinemic effect of indirect anticoagulants. International Journal of Neuropharmacology 2(3/4):135-141.

005006275 Hrdy, O. (1967) Fotometricke stanoveni nekterych derivatu 4-hydroxykumarinu. [Photometric determination of some 4-hydroxycoumarin derivatives.] Ceskoslovenska Farmacie. [Czechoslovakian Pharmacy.] 16(9):457-460.

005005425 Hueter, F. (1951) Neue biologische Erkenntnisse, gewonnen mit chemisch synthetisierten Nagetiergiften. [New biological findings obtained with chemically synthesized rodent poisons.] Anzeiger fuer Schaedlingskunde 23(2):23-26.

005002241 Huethwohl, B.; Jaehnchen, E.; Kahl, G.F.; Stamm, H.; Weber, W. (1972) Inhibition of microsomal drug metabolism by coumarin compounds. Naunyn-Schmiedeberg's Archives of Pharmacology. Supplement 274:R57.

005009215 Hulbert, R.H.; Krumbiegel, E.R. (1972) Synthetic flavors improve acceptance of anticoagulant-type rodenticides. Journal of Environmental Health 34(4):407-411.

005002297 Hume, R.; Johnstone, J.M.S.; Weyers, E. (1972) Interaction of ascorbic acid and warfarin [letter]. Journal of the American Medical Association 219(11):1479.

005007731 Humphreys, D.J. (1978) A review of recent trends in animal poisoning. British Veterinary Journal 134(2):128-145.

005002277 Hunninghake, D.B.; Azarnoff, D.L. (1968) Drug interactions with warfarin. Archives of Internal Medicine 121(4):349-352.

005002295 Hunninghake, D.B.; Pollack, E. (1977) Effect of bile acid sequestering agents on the absorption of aspirin, tolbutamide, and warfarin. Federation Proceedings 36(3):996.

005015988 Hussar, D.A. (1970) Oral anticoagulants—their interactions. Journal of the American Pharmaceutical Association NS10(2):78-82,126.

005001978 Hussar, D.A. (1974) Mechanisms of drug interaction. Indian Journal of Pharmacy 36(2):17-32.

005006283 Husted, S.; Andreasen, F. (1977) The influence of age on the response to anticoagulants. British Journal of Clinical Pharmacology 4(5):559-565.

005003390 Hutchinson, D.W.; Tomlinson, J.A. (1969) The structure of dicoumarol and related compounds. Tetrahedron 25(12):2531-2537.

005002539 Hvizdala, E.V.; Gellady, A.M. (1978) Intentional poisoning of two siblings by prescription drugs: an unusual form of child abuse. Clinical Pediatrics 17(6):480-482.

005002645 Hwang, S.W. (1969) Immunological and Comparative Coagulation Studies: Doctoral Dissertation. Columbia, Mo.: University of Missouri. (Available from: University Microfilms, Ann Arbor, MI: order no. 70-2994)

005010463 Ichimura, Y. (1959) Kumarin yudotai no keiko ni kansuru kenkyu (dai ippo). Warufarin no keikobunseki. [Studies on fluorescence of coumarin derivatives. I. Fluorometric analysis of warfarin.] Yakugaku Zasshi. [Journal of the Pharmaceutical Society of Japan.] 79(8):1079-1082.

005001715 Ikeda, M. (1968) Metabolism in vitro of warfarin by enzymic and nonenzymic systems. Biochemical Pharmacology 17(8):1663-1669.

005002023 Ikeda, M.; Conney, A.H.; Burns, J.J. (1968) Stimulatory effect of phenobarbital and insecticides on warfarin metabolism in the rat. Journal of Pharmacology and Experimental Therapeutics 162(2):338-343.

005007113 Ikeda, M.; Ullrich, V.; Staudinger, H. (1968) Metabolism in vitro of warfarin by enzymic and nonenzymic systems. Biochemical Pharmacology 17(8):1663-1669.

005001788 Ikkala, E.; Myllyla, G.; Nevanlinna, H.R.; Pelkonen, R.; Pyorala, K. (1964) Haemorrhagic diathesis due to criminal poisoning with warfarin. Acta Medica Scandinavica 176(2):201-203.

005001716 Inamdar, M.C.; Saboo, J.C.; Shah, H.M.; Sanghavi, N.M. (1973) Estimation of warfarin sodium with lithium methoxide. Indian Journal of Pharmacy 35(6):186-187.

005001901 Innerfield, I.; Rowley, G.R. (1970) Low dosage proteases, clotting factors, capillary permeability and cellular viability. Life Sciences 9(23):1359-1367.

005002418 Iyer, K.S.; Ummer, A. (1971) Griseofulvin-tolbutamide interaction. Indian Journal of Physiology and Pharmacology 15(2):10.

005005304 Izak, G.; Galewsky, K. (1966) Studies on experimentally induced hypercoagulable state in rabbits. Thrombosis et Diathesis Haemorrhagica 16(1/2):228-242.

005001873 Jackson, W.B. (1969) Anticoagulant resistance (part 2). Pest Control 37(4):40-43.

000002318 Jackson, W.B. (1974) Evaluation of Furlin Anticoagulant Baits. (Unpublished study received Oct 22, 1974 under 13933-2; prepared by Bowling Green State Univ., [Dept. of] Environmental Studies, submitted by Brookfield Industries, Centerville, Iowa; CDL:100857-A)

005020379 Jackson, W.B.; Brooks, J.E.; Bowerman, A.M.; Kaukeinen, D.E. (1973) Anticoagulant resistance in Norway rats—in U.S. cities. Pest Control 41(4):55,57-58,60-64,81.

005001874 Jackson, W.B.; Brooks, J.E.; Bowerman, A.M.; Kaukeinen, D.E. (1973) Anticoagulant resistance in Norway rats... in U.S. cities. Pest Control 41(4):56-64,81.

005001876 Jackson, W.B.; Kaukeinen, D. (1972) Resistance of wild Norway rats in North Carolina to warfarin rodenticide. Science 176(41):1343-1344.

005001783 Jackson, W.B.; Kaukeinen, D.E. (1976) Anticoagulant resistance and rodent control. Pages 303-308, *In* Proceedings of the Third International Biodegradation Symposium; Aug 17-23, 1975, Kingston, Rhode Island. London, England: Applied Science Publishers.

005009876 Jackson, W.B.; Marsh, B.T.; Brown, M.L.; Ashton, A.D. (1978) Environmental control of rats; controlling resistant rats in Chicago. Pest Control 46(8):12-14,16-17,19-20,37-38,43,54.

000014338 Jackson, W.B.; Seeger, M. (1979) A Toxic Group Choice Test on Domestic *Mus musculus* with Hobby's Meal Bait (.025%) and EPA Placebo. (Unpublished study including letter dated May 16, 1979 from W.B. Jackson to Howard E. Habegger, received Jun 5, 1979 under 7537-2; prepared by Bowling Green State Univ., Environmental Studies Center, submitted by Monroe Grain & Supply, Inc., Monroe, Ind.; CDL:238611-B)

005007727 Jackson, W.B.; Simon, F.A.; Pickering, L.K. (1976) Phosphorus poisoning and reply [letters]. Journal of the American Medical Association 236(8):918.

005001875 Jackson, W.B.; Spear, P.J.; Wright, C.G. (1971) Resistance of Norway rats to anticoagulant rodenticides confirmed in the United States. Pest Control 39(9):13-14.

005004403 Jacobs, M.B. (1958) The Chemical Analysis of Foods and Food Products. 3rd ed. Princeton, N.J.: D. Van Nostrand Co.

005004899 Jaehnchen, E.; Meinertz, T. (1977) Pharmakokinetische Aspekte der Ueberdosierung und Intoxikation mit oralen Antikoagulantien. [Pharmacokinetic aspects of overdosage and intoxication with oral anticoagulant drugs.] Arzneimittel-Forschung 27(9):1849-1856.

005002011 Jaffer, A.M.; Schmid, F.R. (1977) Hemarthrosis associated with sodium warfarin. Journal of Rheumatology 4(2):215-217.

005003619 Jain, A.; McMahon, G.; Slattery, J.T.; Levy, G. (1979) Effect of naproxen on the steady-state serum concentration and anticoagulant activity of warfarin. Clinical Pharmacology and Therapeutics 25(1):61-66.

005001863 Jalonen, K.; Pyorala, K. (1970) The rate of warfarin metabolism in five inbred rat strains. Scandinavian Journal of Clinical and Laboratory Investigation, Supplement 25(113):9.

005007636 Jancik, F.; Korbl, J. (1956) Alkalimetricke stanoveni nekterych derivatu 4-hydroxykumarinu v bezvodem pyridinu. [Alkalimetric determination of some 4-hydroxycoumarin derivatives in anhydrous pyridine.] Ceskoslovenska Farmacie. [Czechoslovakian Pharmacy.] 5:408-410.

005002538 Jatlow, P. (1973) Ultraviolet spectrophotometric analysis of barbiturates: evaluation of potential interferences. American Journal of Clinical Pathology 59(2):167-173.

005010040 [illegible], inventor; (1976) Composition pour la destruction de rongeurs. [Composition for the destruction of rodents.] [illegible] 2,310,702. Dec 10. 7 p. Int. Cl. 2* [illegible]

005002194 Je[illegible] Part I. Anticoagulant A[illegible] Part II. The Increase of the "Vit[illegible] Warfarin by Phytol and As[illegible] Madison, Wis.: University of Wiscons[illegible]

005001781 Jenner, P.; Test[illegible] stereochemical factors on drug dispo[illegible] Reviews 2(2):117-184.

005001784 Jennings, D.S. (1972) Warfarin poisoning in pigs [letter] Veterinary Record 90(4):110.

005001780 Jick, H. (1972) Computer analysis of epidemiologic data about drug interactions in hospital patients. Drug Information Journal 6:74-80.

005001872 Jick, H.; Slone, D.; Shapiro, S.; Heinonen, O.P.; Lawson, D.H.; Lewis, G.P.; Jusko, W.; Siskind, V.; Hartz, S.; Gaetano, L.F.; MacLaughlin, D.S.; Parker, W.J.; Wizwer, P.; Dinan, B.; Baxter, C.; Miettinen, O.S. (1972) Interaction between chloral hydrate and warfarin: a report from the Boston Collaborative Drug Surveillance Program, Boston University Medical Center. New England Journal of Medicine 286(2):53-55.

005005980 Johannessen, H. (1973) Endret warfarintoleranse. [Changed warfarin tolerance.] Tidsskrift for den Norske Laegeforening. [Journal of the Norwegian Medical Association.] 93(16):1236-1239.

005001779 Johansson, S.A. (1968) Apparent resistance to oral anticoagulant therapy and influence of hypnotics on some coagulation factors. Acta Medica Scandinavica 184(4):297-300.

005002010 Johnson, G.E. (1975) Modification of drug effects after chronic ethanol consumption. Pages 117-125, In International Symposia on Alcohol and Drug Addiction. Clinical Pharmacology of Psychoactive Drugs; Oct 22-24, 1973, Toronto, Ontario, Canada. Edited by E.M. Sellers. Toronto, Ontario Addiction Research Foundation.

005001782 Johnson, H.R.; McIntire, M.S. (1975) Pesticide poisoning in children: a review from Children's Memorial Hospital, Omaha, Nebraska from 1960-1973. Part I. Nebraska Medical Journal 60(2):40-43.

005001866 Johnson, H.V.; Boyd, C.; Martinovic, J.; Valkovich, G.; Johnson, B.C. (1972) A new blood protein which increases with vitamin K deficiency. Archives of Biochemistry and Biophysics 148(2):431-442.

005003512 Johnson, J.F. (1979) Case Report 79. Skeletal Radiology 3(4):244-246.

005001867 Johnsson, H.; Olsson, P. (1976) Interference on the haemostasis in dogs with induced coagulopathies by drugs affecting the platelet function. Haemostasis 5(1):27-37.

005001869 Johnston, M.F.M.; Olson, R.E. (1972) Studies of prothrombin biosynthesis in cell-free systems. III. Regulation by vitamin K and warfarin of prothrombin biosynthesis in rat liver microsomes. Journal of Biological Chemistry 247(12):4001-4007.

005001871 Jones, J.C.; Bissell, T.L. (1951) Control Rats and Mice With Warfarin. College Park, Md.: University of Maryland College of Agriculture. (University of Maryland, College of Agriculture, Extension Service Fact Sheet 12)

005001868 Joshi, C.G.; Bose, J.L. (1972) Studies in the synthesis of warfarin [3-(alpha-acetonylbenzyl)-4-hydroxycoumarin] Indian Journal of Technology 10(12):461-462.

005001864 Julkunen, R.; Pyorala, K.; Airaksinen, M.; Siurala, M. (1971) The effect of pH on the absorption of warfarin from the small intestine of the rat in vivo. Scandinavian Journal of Clinical and Laboratory Investigation, Supplement 27(116):74.

005001870 Julkunen, R.J.K. (1976) The absorption of warfarin from the rat small intestine in situ. Journal of Pharmacy and Pharmacology 28(6):493-497.

005001707 Julkunen, R.J.K. (1976) The absorption of warfarin from the rat stomach in situ. Medical Biology 54(4):260-263.

005001705 Julkunen, R.J.K.; Himberg, J.J. (1976) Dry polyacrylamide batch method for studying drug protein binding. Arzneimittel-Forschung. [Drug Research.] 26(4):560-563.

005001865 Julkunen, R.J.K.; Pyorala, K.; Airaksinen, M.M.; Siurala, M. (1971) The effect of pH on the absorption of warfarin from rat small intestine in vitro. Annales Medicinae Experimentalis et Biologiae Fenniae 49(1):38-44.

005002224 Kahn, R.A.; Johnson, S.A.; DeGraff, A.F. (1971) Effects of sodium warfarin on capillary ultrastructure. American Journal of Pathology 65(1):149-156.

005001976 Kaiser, D.G.; Martin, R.S. (1974) GLC determination of warfarin in human plasma. Journal of Pharmaceutical Sciences 63(10):1579-1581.

005001749 Kallman, R.F; Jardine, L.J (1974) The effect of anticoagulant treatment on radiation response (hypoxic cell fraction and reoxygenation) of the EMT6 tumor. Radiation Research 59(1):92.

005018486 Kamen, K. (1957) Odmerne stanoveni warfarinu v technickych preparatech. [Titrimetric estimation of warfarin in commercial preparations.] Chemicky Prumysl. [Chemical Industry.] 7(9):472-476.

005002231 Kaminsky, L.S.; Piper, L.J.; Fasco, M.J. (1976) The binding of R and S warfarin to hepatic cytochromes P-450. Federation Proceedings 35(7):1709.

005001977 Kaminsky, L.S; Piper, L.J; McMartin, D.N.; Fasco, M.J (1978) Induction of hepatic microsomal cytochrome P-450 by mirex and Kepone. Toxicology and Applied Pharmacology 43(2):327-338.

005005625 Kamm, G. (1968) Weitere Versuche zum Nachweis von Cumarin-Derivaten. [Further studies on the identification of coumarin derivatives.] Arzneimittel-Forschung 18(10):1336-1337.

005005301 Kammermann-Luescher, B. (1978) Cumarinvergiftung bei Hund und Katze. [Coumarin poisoning in dogs and cats.] Schweizer Archiv fuer Tierheilkunde 120(5):231-244.

005002383 Kampmann, J.; Skovsted, L. (1975) The kinetics of propylthiouracil in hyperthyroidism. Acta Pharmacologica et Toxicologica 37(3):201-210.

005002849 Kaneda, H. (1967) [Research on the experimental poisoning of dogs with agricultural chemicals. 1. The experimental poisoning of dogs with a mildly toxic raticide.] Nippon Juishikai Zasshi. [Journal of the Japan Veterinary Medical Association.] 20(11):462-468.

005020071 Kaplinsky, N.; Thaler, M.; Militianu, J.; Franklin, O. (1980) Transient pulmonary infiltrates associated with warfarin [letter]. Journal of the American Medical Association 243(6):513-514.

005002243 Kater, R.M.H.; Roggin, G.; Tobon, F.; Zieve, P.; Iber, F.L. (1969) Increased rate of clearance of drugs from the circulation of alcoholics. American Journal of the Medical Sciences 258:35-39.

005004060 Kato, H.; Koike, S.; Yokoyama, T. (1979) Kawasaki disease: effect of treatment on coronary artery involvement. Pediatrics 63(2):175-179.

000002843 Kaufman, M. (1968) Laboratory Report: Warfet in 4 Oz. Plastic Packets. (Unpublished study received Aug 24, 1970 under 6035-48; submitted by Vineland Laboratories, Inc., Vineland, N.J.; CDL:022453-A)

005015218 Kaukeinen, D. (1979) Experimental rodenticide (Talon) passes lab tests; moving to field trials in pest control industry. Pest Control 47(1):19-21,46.

005007711 Kay, K. (1969) Pesticides and associated health factors in agricultural environments. Industrial Medicine and Surgery 38(1):52-63.

005001748 Kazmier, F.J. (1976) A significant interaction between metronidazole and warfarin. Mayo Clinic Proceedings 51(12):782-784.

005005719 Kchouk, M.; Edlinger, E.; Zaibi, A. (1966) Sensibilite de Rattus norvegicus a la Warfarine. [Sensitivity of Rattus norvegicus to warfarin.] Archives de l'Institut Pasteur de Tunis 43(3):523-529.

005003289 Kekki, M.; Julkunen, R.J.K.; Wahlstroem, B. (1977) Distribution pharmacokinetics of warfarin in the rat, a non-linear multicompartment model. Naunyn-Schmiedeberg's Archives of Pharmacology 297(1):61-73.

005002701 Kekki, M.; Pyorala, K.; Mustala, O.; Salmi, H.; Jussila, J.; Siurala, M. (1971) Multicompartment analysis of the absorption kinetics of warfarin from the stomach and small intestine. Internationale Zeitschrift fuer Klinische Pharmakologie, Therapie und Toxikologie 5(2):209-211.

005001822 Kellum, J.M. (1952) Warfarin for suicide [letter] Journal of the American Medical Association 148(16):1443.

005013647 Kelly, J.G.; O'Malley, K. (1979) Clinical pharmacokinetics of oral anticoagulants. Clinical Pharmacokinetics 4(1):1-15.

005008223 Kenny, A.D. (1979) Designing therapy for the elderly. Drug Therapy 9(7):49-52,55-57,60-64.

005005762 Kent, D.C. (1965) Bleeding into pulmonary cyst associated with anticoagulant therapy. American Review of Respiratory Disease 92(1):108-112.

005003292 Keplinger, M.L.; Lanier, G.E.; Deichmann, W.B. (1959) Effects of environmental temperature on the acute toxicity of a number of compounds in rats. Toxicology and Applied Pharmacology 1:156-161.

005002524 Kerber, I.J.; Warr, O.S., III; Richardson, C. (1968) Pregnancy in a patient with a prosthetic mitral valve. Journal of the American Medical Association 203(3):157-159.

005010955 Khristeva, V.V.; Spasovskii, M.K.; Khinkova, L.S. (1978) Eksperimental'noe obosnovanie PDK kumarinogo ratitsida ratrona. [Experimental substantiation of the maximum permissible concentration of the coumarin rodenticide ratron.] Gigiena Truda i Professional'nye Zabolevaniya. [Labor Hygiene and Occupational Diseases.] (7):49-51.

005001974 Kipfer, R.K.; Olson, R.E. (1969) The effect of vitamin K and warfarin upon the biosynthesis of factors II and VII by liver tissue in vitro. Journal of Clinical Investigation 48(6):44A.

005002228 Kipnes, R.S.; Babior, B.M. (1971) Effect of warfarin on factor VII formation by a cell-free system from rat liver. Biochemical Pharmacology 20(12):3397-3401.

005001973 Kirby, J.D.; Brearley, R.L. (1978) Prevention of warfarin induced skin necrosis [letter] British Journal of Dermatology 98(6):707.

005002229 Kirby, J.D.; Marriott, P.J. (1976) Skin necrosis following warfarin therapy. British Journal of Dermatology 94(1):97-99.

005002428 Kirkpatrick, M.G. (1950) Warfarin--new rat killer: greater safety and longer lasting powers of this new product are a few definite advantages. Everybody's Poultry Magazine 55(9):38.

005003290 Kirsch, W.M.; Buskirk, J.J. van; Schulz, D.; Tabuchi, K. (1975) Thoughts on the biology and therapy of malignant gliomas. Recent Results in Cancer Research 51:110-118.

005009713 Kjellander, B. (1951) Antikoagulationsmedels anvanding som rattgift. [Use of anticoagulants as rat poisons.] Nordisk Hygienisk Tidskrift. [Scandinavian Journal of Hygiene.] 32(7/8):215-224.

005011215 Kjellander, B.; Astrom, O. (1951) Det nya rattgiftet Warfarin samt dess praktiska anvandning. [The new raticidal substance warfarin and its practical application.] Hygienisk Revy. [Review of Hygiene.] XL(4):137-142,145.

005003814 Klausman, B.S.; Brown, H.W. (1952) Report of a series of deliberate warfarin poisonings: suggested treatment. Veterinary Medicine 47:235-238.

005002047 Kleinman, P.D.; Griner, P.F. (1970) Studies of the epidemiology of anticoagulant-drug interactions. Archives of Internal Medicine 126:522-523.

005002929 Klinger, M.E.; Tanenbaum, B.; Elguezabal, A. (1971) Pseudo-tumors of the kidney secondary to anticoagulant therapy. Journal of Urology 106(4):507-511.

005008466 Klingler, M. (1966) Intrakranielle Blutungen bei Antikoagulantientherapie. [Intracranial hemorrhaging during anticoagulation therapy.] Schweizer Archiv fuer Neurologie, Neurochirurgie und Psychiatrie 89(1):20-25.

005005020 Klosa, J. (1955) Ueber Kondensationen von heterocyclischen und ungesaettigten Aldehyden und Ketonen mit 4-Oxycumarin. [The condensation of heterocyclic and unsaturated aldehydes and ketones with 4-hydroxycoumarin.] Archiv der Pharmazie 288(11/12):545-549.

005002594 Kloss, R.A. (1956) Studies on 4-hydroxycoumarins: I. The attempted resolution of warfarin. II. The chemistry of 3-acyl-4-hydroxycoumarins. Dissertation Abstracts International B 16(11):2017-2018.

000002347 Knight, C.E. (1973) Report: [Warfarin]. (Unpublished study received Sep 9, 1974 under 5340-4; submitted by United States XXX Products Co., Dallas, Tex.; CDL:009814-A)

005002036 Ko, H.; Royer, M.E. (1974) In vitro binding of drugs to colestipol hydrochloride. Journal of Pharmaceutical Sciences 63(12):1914-1920.

005003288 Kober, A.; Ekman, B.; Sjoholm, I. (1978) Direct and indirect determination of binding constants of drug-protein complexes with microparticles. Journal of Pharmaceutical Sciences 67(1):107-109.

005003624 Kober, A.; Jenner, A.; Sjoholm, I. (1978) Differentiated effects of liver cirrhosis on the albumin binding sites for diazepam, salicylic acid and warfarin. Biochemical Pharmacology 27(23):2729-2735.

005002226 Koch-Weser, J. (1968) Coumarin necrosis. Annals of Internal Medicine 68(6):1365-1367.

005002225 Koch-Weser, J. (1968) Quinidine-induced hypoprothrombinemic hemorrhage in patients on chronic warfarin therapy. Annals of Internal Medicine 68(3):511-517.

005002227 Koch-Weser, J. (1970) Potentiation by glucagon of the hypoprothrombinemic action of warfarin. Annals of Internal Medicine 72(3):331-335.

005008467 Koch-Weser, J. (1976) Medikamentoese Wechselwirkungen in der kardiovaskulaeren Therapie. [Drug interactions in cardiovascular therapy.] Schweizerische Medizinische Wochenschrift 106(45):1531-1538.

005001756 Koch-Weser, J.; Sellers, E.M. (1971) Chloral hydrate and warfarin therapy. Annals of Internal Medicine 75:141.

005004579 Koch-Weser, J.; Sellers, E.M. (1971) Drug interactions with coumarin anticoagulants (second of two parts). New England Journal of Medicine 285(10):547-558.

005002110 Koch-Weser, J.; Sellers, E.M.; Udall, J.A.; Griner, P.F.; Rickles, F.R. (1971) Chloral hydrate and warfarin therapy and reply [letters]. Annals of Internal Medicine 75(1):141-142.

005010046 Kodama, Y.; Hoshida, H..; Tanabe, H.. (1963) Jozaichu no wa-fuarin no teiryo. [The quantitative analysis of warfarin in tablets.] Yakuzaigaku. [Pharmacology.] 23(2):158-162.

005014826 Koget, T.O.; Tsisar, S.S. (1972) Kilkisne vyznachennia zookumarynu. [Quantitative determination of zoocoumarin.] Farmatsevtichnii Zhurnal (Kiev). [Pharmaceutical Journal.] 27(1):80-81.

005001745 Kolinski, R.E. (1973) Collaborative study of a semiautomated method for the analysis of sodium warfarin and dicumarol tablets. Journal of the Association of Official Analytical Chemists 56(3):692-696.

005001746 Kolinski, R.E. (1975) Collaborative study of a semiautomated method for the analysis of acenocoumarol, phenprocoumon, and potassium warfarin tablets. Journal of the Association of Official Analytical Chemists 58(1):80-84.

005001816 Korbitz, B.C.; Ramirez, G.; Mackman, S.; Davis, H.L., Jr. (1969) Coumarin-induced skin necrosis in a sixteen year old girl. American Journal of Cardiology 24(3):420-425.

005002384 Kosman, M.E. (1974) Pharmacokinetic drug interactions: sedative, hypnotic, and antianxiety agents. Journal of the American Medical Association 229(11):1485-1488.

005009404 Kovac, J. (1954) Polarograficke stanovenie 3-(alpha-fenyl-beta-acetyletyl)-4-hydroxykumarinu (varfarinu). [Polarographic determination of 3-(alpha-phenyl-beta-acetylethyl)-4-hydroxycoumarin (warfarin).] Chemicke Zvesti. [Chemical News.] VIII(6):342-345.

005013522 Kovalcik, V.; Capek, R. (1962) Concerning the analgesic and anticonvulsive activity of some anticoagulant drugs and vitamin K. International Journal of Neuropharmacology 1(1/3):153-156.

005008904 Kozinka, V. (1967) Water uptake during rapid changes of transpiration induced by the presence of high concentration of growth substances in root medium. Biologia Plantarum 9(3):222-233.

005007878 Kreiger, C.H. (1949) Compound 42---a new anticoagulant as a rodenticide. Pests 17(5):24,26,28.

000002832 Krieger, C.H. (1949) Data Compilation on Compound 42. (Unpublished study received May 17, 1949 under unknown admin. no.; prepared by Wisconsin Alumni Research Foundation, submitted by ; CDL: 105294-A)

005001972 Krieger, J.H. (1952) From arsenic to warfarin--the story of rodenticides. Agricultural Chemicals 7(4):46-48,135,137,139,141,143.

005002035 Krishnakumari, M.K.; Muralidhara, S. (1977) Augmentation of warfarin toxicity by vitamin A acetate to roof rats (*Rattus rattus*). Journal of Food Science and Technology 14(1):26-28.

005001744 Krishnamurthy, K.; Ramasivan, T.; Singh, D.P. (1971) Studies on rodents and their control. Part VII: effect of impurities in warfarin on its acceptability and mortality to black rats (*Rattus rattus*). Bulletin of Grain Technology 9(4):252-256.

005002033 Krishnamurthy, K.; Uniyal, V. (1969) Studies on rodents and their control. Part V—some factors affecting lethal feeding period with warfarin. Bulletin of Grain Technology VII(1):5-8.

005001743 Krishnamurthy, K.; Uniyal, V.; Pingale, S.V. (1968) Studies on rodents and their control. Part IV—susceptibility of *Rattus rattus* to warfarin. Bulletin of Grain Technology 6(3):133-137.

005001742 Krishnamurthy, K.; Uniyal, V.; Rao, M.; Pingale, S.V. (1968) Studies on rodents and their control. Part III: studies on rat control in a village with anti-coagulants. Bulletin of Grain Technology VI(1):11-15.

005002223 Kronick, J.; Phelps, N.E.; McCallion, D.J.; Hirsh, J. (1974) Effects of sodium warfarin administered during pregnancy in mice. American Journal of Obstetrics and Gynecology 118(6):819-823.

005002037 Kroovand, R.L; Bell, T.E; Kohler, H.H (1974) Coumadin-induced hematuria simulating a renal pelvic tumor: case presentation and review of the literature. Journal of Urology 111(2):223-224.

005002038 Kruckenberg, S.M.; Cook, J.E.; Feldman, B.F. (1975) Clinical toxicities of pet and caged rodents and rabbits. Veterinary Clinics of North America 5(4):675-684.

005013087 Ku, T.Y.; Hseun, Y.K. (1977) Sha shu ling tui kuei shu chi hsiao huang fu shu chih tu hsiao chi kang yo sing taan tao. [Dosage-mortality response and resistance status of wild rats, *Bandicota nemorivaga* Hodgson and *Rattus losea* Swinhoe to warfarin.] T'ai-Wan Nung Yeh Chi K'an. [Taiwan Agriculture Quarterly.] 13(3):105-113.

005004896 Kubik, M. (1969) Chemicky prukaz otravy psa neratoxem pomoci chromatografie na tenke vrstve. [Chemical proof of poisoning of a dog by Neratox using thin-layer chromatography.] Veterinarstvi. [Veterinary Medicine.] 19(7):316-317.

005002230 Kuentzel, W.P.; Brunk, S.F. (1970) Cholestyramine-warfarin interaction in man. Clinical Research 18(3):594.

005006280 Kulesza, J.; Baranowska, I.; Michalski, Z. (1958) Krajowa produkcja srodkow gryzoniobojczych i jej kierunki rozwojowe. [Polish production of rodenticides and the trends in their development.] Przemysl Chemiczny. [Chemical Industry.] 37:573-575.

005002032 Kuntzman, R. (1969) Drugs and enzyme induction. Annual Review of Pharmacology 9:21-36.

005003291 Kuroyanagi, T.; Saito, M. (1974) Relationship between contents of neuraminic acid and ATP and adhesiveness of the platelet. Tohoku Journal of Experimental Medicine 114(4):339-348.

005007463 Kusano, T. (1958) [The toxic action of new coumarin rodenticides. VIII. The effects of coumarin rodenticides on plasma thromboplastin generation and brain thromboplastin activity.] Nippon Oyo Dobutsu Kenkyu Gakkai-Shi. [Japanese Journal of Applied Entomology and Zoology.] 2:78-86.

005008468 Kusano, T. (1962) [Effects of warfarin on blood coagulation in Norway rats and roof rats.] Tottori Nogakkaiho. [Transactions of the Tottori Society of Agricultural Science.] XIV:27-33.

005001747 Kusano, T. (1969) Studies on the improved effectiveness of anticoagulative rodenticides on rodents: I. Synergistic toxic action between coumarin or indandione derivatives and thallium salts on mice. Journal of the Faculty of Agriculture, Tattori University 5(2):15-52.

005006347 Kusano, T. (1972) [Action mechanism of anticoagulant-type rodenticides, with special reference to deficiencies of vitamin K-dependent clotting factors.] Bochu-Kagaku. [Scientific Pest Control.] 37(1):24-39.

005001975 Kwalick, D.S. (1971) Physicians' pesticide primer. Journal of the Medical Society of New Jersey 68(5):375-377.

005002034 Kwong, P.; Roberts, P.; Prescott, S.M.; Tikoff, G. (1978) Dermatitis induced by warfarin. Journal of the American Medical Association 239(18):1884-1885.

005003903 Kyd, S. (1952) How to Kill Rats with Warfarin. Stillwater, Okla.: Extension Service, Oklahoma A. and M. College. (Oklahoma A. and M. College Extension Service circular 567)

005006600 La Clair, J.B. (1952) Report on rodenticides. Journal of the Association of Official Agricultural Chemists 35(2):372-376.

005002947 LaClair, J.B. (1953) Report on rodenticides: determination of warfarin. Journal of the Association of Official Agricultural Chemists 36(2):373-377.

005002948 LaClair, J.B. (1954) Report of rodenticides. Journal of the Association of Official Agricultural Chemists 37(3):634-638.

005001760 LaClair, J.B. (1955) Report on rodenticides: the determination of warfarin and Pival. Journal of the Association of Official Agricultural Chemists 38(2):299-303.

005006282 Lacobescu, S.; Gostea, T., inventors; Institutul de Cercetari Chimico-Farmaceutice, assignee (1961) Procede de preparation de la 3-alpha-phenyl-beta-acetylethyl-4-hydroxycoumarine. [Process for the preparation of 3-alpha-phenyl-beta-acetylethyl-4-hydroxycoumarin.] French brevet d'invention 1,271,976. Aug 16. 2 p. Int. Cl. A 0ln; A 61K; C 07d.

005003325 Lacy, J.P.; Goodin, R.R. (1975) Warfarin-induced necrosis of skin [letter]. Annals of Internal Medicine 82(3):381-382.

005013668 Ladefoged, O. (1978) Endotoxin induced changes in the pharmacokinetics of warfarin in rabbits. Acta Veterinaria Scandinavica 19(4):479-486.

005020164 Ladefoged, O. (1979) The effect of carbon tetrachloride (CCl_4) induced liver damage on the volume of distribution, the elimination half-life and body clearance of antipyrine and warfarin in rabbits. Acta Veterinaria Scandinavica 20(3):429-437.

005002778 Lai, C.M.; Levy, G. (1977) Comparative pharmacokinetics of coumarin anticoagulants. relationship between total clearance and serum protein binding of dicumarol in rats. Journal of Pharmaceutical Sciences 66(12):1739-1741.

005002719 Lai, C.M.; Levy, G. (1978) Comparative pharmacokinetics of coumarin anticoagulants. XXXIII: Frequency distribution of dicumarol total clearance in rats. Journal of Pharmaceutical Sciences 67(3):337-340.

005002485 Laliberte, R.; Chakrabarti, S.; Brodeur, J. (1976) The influence of fasting and stress on the response of rats to warfarin. Journal of Pharmacology and Experimental Therapeutics 196(1):194-203.

005003324 Laliberte, R.; Chakrabarti, S.; Brodeur, J. (1977) The influence of fasting on the disposition of warfarin in rats. Journal of Pharmacology and Experimental Therapeutics 200(1):44-51.

005015249 Lande, S.S. (1978) Identification and Description of Chemical Deactivation/Detoxification Methods for the Safe Disposal of Selected Pesticides. Washington, D.C.: U.S. Environmental Protection Agency, Office of Solid Waste. (EPA/530/SW-165-C; available from: NTIS, Springfield, VA; PB-285 208)

005019219 Lande, S.S. (1978) Identification and Description of Chemical Deactivation/Detoxification Methods for the Safe Disposal of Selected Pesticides. Washington, D.C.: U.S. Environmental Protection Agency, Office of Solid Waste. (EPA Office of Solid Waste Management Programs report no. SW-165c; available from: NTIS, Springfield VA; PB-285 208;)

005016263 Lange, H.; Kasim, M. (1971) Zur Problematik und Untersuchung von Farbstoffzusaetzen auf Getreide. [Problems of and tests for dye additives to grain.] Monatshefte fuer Veterinaermedizin 26(3):111-112.

005004097 Lange, P.F.; Terveer, J. (1954) Warfarin poisoning: report of fourteen cases. U.S. Armed Forces Medical Journal V(6):872-877.

005015987 Larcan, A.; Bertrand, P.; Richon, J.; Calamai, M. (1968) Accidents cutanes necrotico-bulleux dus aux antivitamines K. [Necrotic and bullous skin complications due to K antivitamins.] Presse Medicale 76(25):1217-1220.

005002975 Laros, R.K., Jr.; Hage, M.L.; Hayashi, R.H. (1970) Pregnancy and heart valve prostheses. Obstetrics and Gynecology 35(2):241-247.

005002715 Lau-Cam, C.A. (1978) Thin-layer chromatography of coumarins of medicinal and phytochemical interest on buffered layers. Journal of Chromatography 151(3):391-395.

005002484 Lau-Cam, C.A.; Chu-Fong, I. (1972) TLC of coumarin anticoagulants. Journal of Pharmaceutical Sciences 61(8):1303-1306.

005004343 Lavelle, S.M.; MacIomhair, M. (1975) The anti-thrombotic effect of warfarin, dipyridamole and aspirin in the rat. Thrombosis et Diathesis Haemorrhagica 34(1):343.

005002949 Lawrence, J.F.; Frei, R.W. (1974) Fluorimetric derivatization for pesticide residue analysis. Journal of Chromatography 98(1):253-270.

005002950 Lawson, J.; Doncaster, R.A. (1965) A treatment for warfarin poisoning in the dog. Veterinary Record 77(40):1183.

005004340 Leach, H.; Jones, O.P. (1971) Special techniques in clinical analytical toxicology: II. Fluorescence spectroscopy. Annals of Clinical Biochemistry 8(3):83-92.

005002527 Leahy, J.S.; Waterhouse, C.E. (1960) The quantitative determination of low concentrations of warfarin in aqueous solution. Analyst 85:492-494.

005016146 Lebedeva, A.A. (1979) Parafinirovannye brikety v borbe s grysunami. [Paraffinized briquettes in rodent control.] Veterinariya (Moscow). [Veterinary Science.] (2):23-24.

005005973 LeBlanc, P.P. (1974) Les interactions medicamenteuses. V. Les interactions au niveau du recepteur. [Drug interactions. V. Interactions at the receptor level.] Vie Medicale au Canada Francais 3(10):997-998.

005002716 Leck, I. (1977) Teratogenic effects of disease and therapy. Teratology 16(3):365-366.

005016972 Lehman, A.J. (1951) Chemicals in foods: a report to the Association of Food and Drug Officials on current developments. Part II. Pesticides. Association of Food and Drug Officials of the United States, Quarterly Bulletin 15:122-133.

005003090 Lehmann, J. (1943) On the effect of some coumarin and dicoumarin derivatives on the prothrombin level in rabbits. Acta Physiologica Scandinavica 6:28-36.

005002717 Lempert, N.; Scharfman, W.B.; Propp, S.; Eckert, C. (1971) Necrosis of breast: unusual complication of coumarin therapy. New York State Journal of Medicine 71(2):245-247.

005002723 Leonard, M.A. (1972) Sciatic nerve paralysis following anticoagulant therapy. Journal of Bone and Joint Surgery, British Volume 54B(1):152-153.

005002718 Lepore, M.L. (1976) Upper airway obstruction induced by warfarin sodium. Archives of Otolaryngology 102(8):505-506.

005003832 Lerner, R.G.; Rapaport, S.I.; Spitzer, J.M. (1968) Endotoxin-induced intravascular clotting: the need for granulocytes. Thrombosis et Diathesis Haemorrhagica 20(3/4):430-443.

005002954 Levine, S. (1978) Stimulation of ventilation (VE) by toxic doses of warfarin. American Review of Respiratory Disease 117(4):362.

005003627 Levine, S. (1978) Stimulation of ventilation by warfarin. Journal of Pharmacology and Experimental Therapeutics 207(3):1013-1021.

005002969 Levy, G. (1971) Kinetics of drug action in man. Acta Pharmacologica et Toxicologica, Supplementum 3 29:203-210.

005002780 Levy, G. (1973) Comparative pharmacokinetics of the anticoagulant effect of coumarin drugs in man and rat. Journal of Pharmacokinetics and Biopharmaceutics 1(6):541-551.

005015039 Levy, G. (1973) Correlation between drug concentration and drug response in man--pharmacokinetic considerations. Pages 34-55,*In Pharmacology and the Future of Man: Proceedings of the 5th International Congress on Pharmacology; Jul 23-28, 1972, San Francisco, California. Vol. 3. Edited by G.H. Acheson. Basel, Switzerland: Karger.

005012218 Levy, G. (1977) Plasma-protein binding as a determinant of adverse drug reactions. Pages 331-345, In Drug Design and Adverse Reactions: Proceedings of the Alfred Benzon Symposium X. Edited by H. Bundgaard. Copenhagen, Denmark: Munksgaard.

005005030 Levy, G.; Lai, C.M.; Yacobi, A. (1978) Comparative pharmacokinetics of coumarin anticoagulants. XXXII: Interindividual differences in binding of warfarin and dicumarol in rat liver and implications for physiological pharmacokinetic modeling. Journal of Pharmaceutical Sciences 67(2):229-231.

005002720 Levy, G.; O'Reilly, R.A.; Wingard, L.B., Jr. (1974) Relationship between the kinetics of the anticoagulant effects of racemic warfarin and its individual enantiomers in man. Research Communications in Chemical Pathology and Pharmacology 7(2):359-365.

005002953 Levy, G.; O'Reilly, R.A.; Wingard, L.B., Jr. (1978) Comparative pharmacokinetics of coumarin anticoagulants XXXV: Examination of possible pharmacokinetic interaction between (R)-(+)-and (S)-(—)-warfarin in humans. Journal of Pharmaceutical Sciences 67(6):867-868.

005002486 Levy, G.; Yacobi, A. (1974) Effect of plasma protein binding on elimination of warfarin [letter]. Journal of Pharmaceutical Sciences 63(5):805-806.

005003326 Levy, M.; Granit, L.; Laufer, N. (1977) Excretion of drugs in human milk [letter]. New England Journal of Medicine 297(14):789.

005003327 Lewis, R.J. (1971) Assay of warfarin [letter]. Journal of Pharmaceutical Sciences 60(8):1271-1272.

005004342 Lewis, R.J.; Ilnicki, L.P. (1969) Warfarin metabolism in man. Clinical Research 17(2):332.

005003091 Lewis, R.J.; Ilnicki, L.P.; Carlstrom, M. (1970) The assay of warfarin in plasma or stool. Biochemical Medicine 4(5):376-382.

005004341 Lewis, R.J.; Rowland, M.; Trager, W.F.; Chan, K.; Matin, S.B. (1972) Metabolic studies with warfarin: the effect of phenylbutazone. Clinical Research 20(3):409.

005002961 Lewis, R.J.; Spivack, M.; Spaet, T.H. (1967) Warfarin resistance. American Journal of Medicine 42(4):620-624.

005004118 Lewis, R.J.; Trager, W.F. (1970) Metabolic fate of warfarin in man: the identification of the metabolites in plasma. Drug Intelligence and Clinical Pharmacy 4(12):348-349.

005002253 Lewis, R.J.; Trager, W.F. (1970) Warfarin metabolism in man: identification of metabolites in urine. Journal of Clinical Investigation 49(5):907-913.

005002874 Lewis, R.J.; Trager, W.F. (1971) The metabolic fate of warfarin: studies on the metabolites in plasma. Annals of the New York Academy of Sciences 179:205-212.

005002955 Lewis, R.J.; Trager, W.F.; Chan, K.K.; Breckenridge, A.; Orme, M.; Roland, M.; Schary, W. (1974) Warfarin: stereochemical aspects of its metabolism and the interaction with phenylbutazone. Journal of Clinical Investigation 53(6):1607-1617.

005011216 Lhoste, J. (1952) Le Warfarine. [Warfarin.] Revue Internationale des Produits Coloniaux et du Materiel Colonial 27:213.

005006352 Lhoste, J.; Leibovici, C. (1952) Contribution a l'etude du "Warfarine" raticide nouveau. [Contribution to the study of the new raticide "warfarin".] Parasitica VIII(4):143-149.

005006281 Lhoste, J.; Mendelsohn, N., inventors; (1965) Melanges rodenticides a effets synergetiques. [Rodenticide mixtures with synergistic effects.] Belgian brevet d'invention 660,094. Jun 16. 5 p.

005002263 Li, L.F.; Block, J.; Kipfer, R.K.; Olson, R.E. (1970) Amino acid metabolism and the biosynthesis of prothrombin in the perfused rat liver. Pages 168-170, In Proceedings--Society for Experimental Biology and Medicine. Vol. 133. New York: Academic Press.

005014035 Liang, D.C.; Lee, C.H.; Lee, T.C. (1976) Shihnianlai Taiwan tichu chih hsiaoerh iwai chungtu kaik'uang chichiu yu ch'uli. [Accidental poisoning of children in the Taiwan area.] Acta Paediatrica Sinica (Taiwan) 17(3):194-202.

000002401 Libby, J.L.; Abrams, J.I. (1965) A New Approach to Meadow Mouse Control in Wisconsin Orchards. (Unpublished study received Oct 13, 1965 under unknown admin. no.; prepared in cooperation with Univ. of Wisconsin, Dept. of Entomology, submitted by Wisconsin Alumni Research Foundation, Madison, Wis.; CDL:126812-C)

005004119 Libby, J.L.; Abrams, J.I. (1966) Anticoagulant rodenticide in paper tubes for control of meadow mice. Journal of Wildlife Management 30(3):512-518.

005003210 Lieberman, A.; Hass, W.K.; Pinto, R.; Isom, W.O.; Kupersmith, M.; Bear, G.; Chase, R. (1978) Intracranial hemorrhage and infarction in anticoagulated patients with prosthetic heart valves. Stroke 9(1):18-24.

005016961 Lim, C.S.; Miller, J.N.; Bridges, J.W. (1978) The use of polarizers to improve detection limits in fluorimetric analysis. Analytica Chimica Acta 78(100):235-243.

005002959 Lind, C.; Rase, B.; Ernster, L.; Townsend, M.G.; Martin, A.D. (1973) Strain differences in liver DT diaphorase activities. FEBS Letters 37(2):147-148.

000014334 Link, K.P. (1950) Vitamin K Antagonism of W.A.R.F.-42. (Unpublished study received May 26, 1950 under unknown admin. no.; prepared by Univ. of Wisconsin, Dept. of Biochemistry, submitted by ; CDL:105309-A)

000002342 Link, K.P. (1952) Report on Some of the Laboratory and Field Work with Warfarin-Sodium Salt--Done between April 1st, 1949 and March 16th, 1952. (Unpublished study received Apr 14, 1952 under 3282-3; submitted by d-Con Co., Inc., New York, N.Y.; CDL: 004285-A)

005002265 Link, K.P.; Berg, D.; Barker, W.M. (1965) Partial fate of warfarin in the rat. Science 150:378.

005013234 Link, K.P.; Ross, W.; McAlindin, D.P.; Spencer, H.J. (1956) Are recommended dosages for Norway rat control too high. Pest Control 24(8):22,24,27-28,50.

005017181 Link, K.P., inventor; d-Con Co., assignee (1954) Warfarin rodenticide bait composition and process of making same. U.S. patent 2,687,365. Aug 24. 4 p. Cl. 167-46.

005002626 Link, K.P., inventor; Wisconsin Alumni Research Foundation, assignee (1957) Warfarin sodium rodenticidal compositions. U.S. patent 2,783,177. Feb 26. 5 p. Cl. 167-46.

005001900 Link, K.P., inventor; Wisconsin Alumni Research Foundation, assignee (1961) Warfarin sodium and heparin sodium composition. U.S. patent 2,999,049. Sep 5. 3 p. Cl. 167--65.

005002070 Link, R.P. (1958) Toxic plants, rodenticides, herbicides, lead, and yellow fat disease. Pages 477-487, In Diseases of Swine. Edited by Howard W. Dunne. Ames, Iowa: Iowa State College Press.

005019962 Link, R.P. (1967) Warfarin poisoning. Current Veterinary Therapy 1966/67:617-618.

005003329 Link, V.B.; Mohr, C.O. (1953) Rodenticides in bubonic-plague control. Bulletin of the World Health Organization 9(5):585-596.

005003828 Lione, A.; Bosmann, H.B. (1978) The inhibitory effect of heparin and warfarin treatments on the intravascular survival of B16 melanoma cells in syngeneic C57 mice. Cell Biology International Reports 2(1):81-86.

005002957 Lione, A.P.; Bosmann, H.B. (1976) Anticoagulant inhibition of tumor cell implantation. Pharmacologist 18(2):173.

000002380 Lipha (19??) Technical Report on Chlorophacinone: Anticoagulant Rodenticide. Includes two undated methods. (Unpublished study received Jul 24, 1970 under 7173-62; submitted by Chempar Chemical Co., Inc., New York, N.Y.; CDL:008006-Z)

000002364 Lipha (19??) Toxicity of Chlorophacinone in Hens. (Unpublished study received Jul 24, 1970 under 7173-62; submitted by Chempar Chemical Co., Inc., New York, N.Y.; CDL:008006-J)

005003393 Lisella, F.S.; Long, K.R.; Scott, H.G. (1970) Toxicology of rodenticides and their relation to human health. Journal of Environmental Health 33(3):231-237.

005002956 Lisella, F.S.; Long, K.R.; Scott, H.G. (1971) Toxicology of rodenticides and their relation to human health. Part II. Journal of Environmental Health 33(4):361-365.

005000456 Lisetta, F.S., Jr.; Long, K.R., Jr.; Scott, H.G., Jr. (1971) Toxicology of rodenticides and their relation to human health II. Journal of Environmental Health 33(4):361-365.

005005768 Lloyd, D.A.; Immelman, E.J.; Wright, M.G.E. (1973) Anticoagulant-induced intramural haematoma of the bowel. South African Medical Journal 47(17):734-738.

005004117 Lo, T.T. (1957) Warfarin as rodenticide in sugar cane fields: recommend to apply the caking bait. Taiwan Sugar 4(3):15-17.

005007511 Loeliger, E.A. (1974) Antistollingsbehandeling bij bejaarden. [Anticoagulant treatment of elderly patients.] Nederlands Tijdschrift voor Gerontologie 5(4):200-203.

005018049 Loftin, J.P.; Vesell, E.S. (1979) Interaction between sulindac and warfarin: different results in normal subjects and in an unusual patient with a potassium-losing renal tubular defect. Journal of Clinical Pharmacology 19(11/12):733-742.

005006349 Lohse, E.; Lauermann, I. (1977) Beitrag zum Nachweis von Pflanzenschutz- und Schaedlingsbekaempfungsmitteln durch Farbreaktionen und Duennschichtchromatographie. [Contribution to the detection of plant protectants and pesticides by color reactions and thin-layer chromatography.] Kriminalistik und Forensische Wissenschaften 27:37-47.

005014994 Loomis, C.W.; Racz, W.J. (1979) Determination of warfarin in plasma by gas-liquid chromatography. Analytica Chimica Acta 106(1):155-159.

005005031 Lorusso, D.J. (1971) Studies on the antagonistic effect of warfarin on vitamin K at the subcellular level. Dissertation Abstracts International B 32(4):1994.

005002958 Lorusso, D.J.; Suttie, J.W. (1971) Characteristics of a liver microsomal warfarin binding protein. Federation Proceedings 30(2):201.

005011061 Lorusso, D.J.; Suttie, J.W. (1972) Warfarin binding to microsomes isolated from normal and warfarin-resistant rat liver. Molecular Pharmacology 8(2):197-203.

005003092 Losito, R. (1972) 14C-warfarin studies in the isolated perfused rat liver. Federation Proceedings 31(2):247.

005011375 Losito, R. (1973) Oral anticoagulants—past and present. Thrombosis et Diathesis Haemorrhagica, Supplementum 56:163-169.

005013363 Losito, R. (1974) Metabolic studies of 14C-warfarin and vitamin K1 57:53-56.

005003830 Losito, R.; Rousseau, M.A. (1972) 14C-warfarin excretion in the rat. Thrombosis et Diathesis Haemorrhagica 27(2):300-308.

005007098 Losito, R.J.; Owen, C.A., Jr. (1972) Metabolism and excretion of 14C-labeled warfarin and 14C-labeled vitamin K_1 by isolated rat liver. Mayo Clinic Proceedings 47(10):731-738.

005002960 Lovering, E.G.; McGilveray, I.J.; McMillan, I.; Tostowaryk, W. (1975) Comparative bioavailabilities from truncated blood level curves. Journal of Pharmaceutical Sciences 64(9):1521-1524.

005002264 Lowenthal, J.; Birnbaum, H. (1969) Vitamin K and coumarin anticoagulants: dependence of anticoagulant effect on inhibition of vitamin K transport. Science 164(3876):181-183.

005002118 Lowenthal, J.; Fisher, L.M. (1957) The effect of thyroid function on the prothrombin time response to warfarin in rats. Experientia XIII(6):253-254.

005002966 Lowenthal, J.; MacFarlane, J.A. (1964) The nature of the antagonism between vitamin K and indirect anticoagulants. Journal of Pharmacology and Experimental Therapeutics 143(3):273-277.

005002256 Lowenthal, J.; MacFarlane, J.A. (1967) Use of a competitive vitamin K antagonist, 2-chloro-3-phytyl-1, 4-naphthoquinone, for the study of the mechanism of action of vitamin K and coumarin anticoagulants. Journal of Pharmacology and Experimental Therapeutics 157(3):672-680.

005003394 Lowther, T.R.; Williams, W.D. (1971) Rapid determination of solvent occluded in some pharmaceutical chemicals. Analyst 96(145):598-600.

005005032 Lox, C.D.; Maciulla, G.J.; Heine, M.W.; Messiha, F.S.; Corrigan, J.J. (1978) The effects of coumadin on the prothrombin (factor II) coagulation pathway in man: relationship between antigen and activity levels. Proceedings of the Western Pharmacology Society 21:237-239.

005017129 Lox, C.D.; Maciulla, G.J.; Heine, M.W.; Messiha, F.S.; Corrigan, J.J. (1978) The effects of coumadin on the prothrombin (factor II) coagulation pathway in man: relationship between antigen and activity levels. Pages 237-239,*In Proceedings of the Western Pharmacology Society. Vol. 21. Los Angeles, Calif.: University of California, Department of Pharmacology.

005012993 Luecke, R.H.; Wosilait, W.D. (1978) A program to simulate drug elimination interactions: warfarin and BSP—an illustrative example. Computer Programs in Biomedicine 8(1):35-43.

005002653 Lumholtz, B.; Siersbaek-Nielsen, K.; Skovsted, L.; Kampmann, J.; Hansen, J.M. (1975) Sulfamethizole-induced inhibition of diphenylhydantoin, tolbutamide, and warfarin metabolism. Clinical Pharmacology and Therapeutics 17(6):731-734.

005002972 Luna, I.; Leadbetter, R.L.; Gilbert, D.R. (1973) Spontaneous rupture of the kidney: a complication of anticoagulation—report of 2 cases. Journal of Urology 109(5):788-789.

000002377 Lund, M. (19??) Experiments with Paraffinblocks [sic] Containg [sic] Anticoagulants: Raport B 468. (Unpublished study received Jul 24, 1970 under 7173-62; prepared by Statens Skadedyrslaboratorium, submitted by Chempar Chemical Co., Inc., New York, N.Y.; CDL:008006-W)

005002474 Lund, M. (1964) Resistance to warfarin in the common rat. Nature (London) 203(4946):778.

005002259 Lund, M. (1964) Resistance to warfarin in the common rat. Nature 203:778.

005007426 Lund, M. (1969) Resistance to anticoagulants in Denmark. Schriftenreihe de Verains fuer Wasser-, Boden-, und Lufthygiene, Berlin-Dahlem 32:27-38.

005002654 Lund, M. (1969) The toxicity of chlorophacinone and warfarin to house mice (Mus musculus). Journal of Hygiene 69(1):69-72.

005002974 Lund, M. (1972) Rodent resistance to the anticoagulant rodenticides, with particular reference to Denmark. Bulletin of the World Health Organization 47(5):611-618.

005002973 Lundberg, G.D.; Walberg, C.B.; Pantlik, V.A. (1974) Frequency of clinical toxicology test-ordering (primarily overdose cases) and results in a large urban general hospital. Clinical Chemistry 20(2):121-125.

005003655 Lush, I.E.; Arnold, C.J. (1975) High coumarin 7-hydroxylase activity does not protect mice against warfarin. Heredity 35(2):279-281.

005009691 Lykken, L. (1967) The safe use of modern pesticides. Agricultural Chemicals 22:14-16.

000014341 Lyonnaise Industrielle Pharmaceutique, S.A. (19??) Toxicity in Domestic Animals. (Unpublished study received Dec 28, 1976 under 7173-168; submitted by Chempar Chemical Co., Inc., New York, N.Y.; CDL:238484-F)

005004345 Lyons, D.C. (1974) Oral tissue reactions to accumulation of systemic pharmaceuticals. Journal of Oral Medicine 29(3):72-74.

005003618 MacDonald, M.G.; Kaminsky, L.S. (1979) Development of the hepatic monoxygenase system and metabolism of warfarin in the perinatal rat. Pediatric Research 13(4):370.

005002549 MacDonald, M.G.; Robinson, D.S. (1968) Clinical observations of possible barbiturate interference with anticoagulation. Journal of the American Medical Association 204(2):97-100.

005001758 MacDonald, M.G.; Robinson, D.S.; Sylwester, D.; Jaffe, J.J. (1969) The effects of phenobarbital, chloral betaine, and glutethimideadministration on warfarin plasma levels and hypoprothrombinemic responses in man. Clinical Pharmacology and Therapeutics 10(1):80-84.

005002940 Mackie, M.J.; Douglas, A.S. (1978) Oral anticoagulants in arterial disease. British Medical Bulletin 34(2):177-182.

005003934 MacLennan, W.J. (1974) Drug interactions. Gerontologia Clinica 16(1):18-24.

005002704 MacSwiney, F.J.; Wallace, M.E. (1978) Genetics of warfarin-resistance in house mice of three separate localities. Journal of Hygiene 80(1):69-75.

005002705 Maddox, K. (1977) Blindness due to an anticoagulant [letter]. Medical Journal of Australia 1(12):420.

005006089 Maddy, K.T.; Riddle, L.C. (1977) Pesticide poisonings in domestic animals. Modern Veterinary Practice 58(11):913-920.

005002821 Mahairas, G.H.; Weingold, A.B. (1963) Fetal hazard with anticoagulant therapy. American Journal of Obstetrics and Gynecology 85(2):234-237.

005006350 Majewski, F. (1977) Ueber einige durch teratogene Noxen induzierte Fehlbildungen. [On certain embryopathies induced by teratogenic agents.] Monatsschrift fuer Kinderheilkunde 125(6):609-620.

005002469 Mallet, V.; Surette, D.P. (1974) Fluorescence of pesticides by treatment with heat, acid or base. Journal of Chromatography 95(2):243-246.

005002774 Mallov, S.; Baesl, T.J. (1972) Effect of ethanol on rates of elimination and metabolism of zoxazolamine, hexobarbital and warfarin sodium in the rat. Biochemical Pharmacology 21(12):1667-1678.

005001844 Malone, J.C. (1969) Hazards to domestic pet animals from common toxic agents: diagnosis and treatment of poisoning in cats and dogs. Veterinary Record 84(7):161-166.

005003931 Mandzhgaladze, R.N.; Vashakidze, V.I. (1966) Effekt malykh doz margantsevykh soedinenii, azotosoderzhashchikh, rtutnoorganicheskikh pestitsidov i nekotorykh antikoagulyantov na khromosomnye perestroiki kletok kostnogo mozga belykh krys. [The effect of small doses of manganese compounds, nitrogen-containing and organomercuric pesticides, and some anticoagulants on the chromosomal rearrangements of the bone marrow cells of white rats.] Sbornik Trudov, Nauchno-Issledovatel'skii Institut Gigieny Truda i Profzabolevanii, Gruz. [Collection of Works, Scientific Research Institute of Labor Hygiene and Occupational Diseases.] 10:209-212.

000002343 Mangieri, C.N. (1974?) [Warfarin: Efficacy Data]. (Unpublished study received Jan 8, 1975 under 255-140; submitted by American Flouride Corp., New Rochelle, N.Y.; CDL:028754-A)

005003319 Manny, J.; Merin, G.; Rozin, R.R.; Freund, U.; Borman, J.B. (1973) Ovarian hemorrhage complicating anticoagulant therapy. Obstetrics and Gynecology 41(4):512-514.

005003812 Markaryan, D.S.; Mandzhgaladze, R.N.; Vashakidze, V.I. (1966) K voprosu o mutagennykh svoystvakh margantsevykh coyedineniy i nekotorykh pestitsidov. [On the mutagenic properties of manganese compounds and certain pesticides.] Soobshcheniya Akademiya Nauk Gruzinskoy SSR. [Bulletin of the Academy of Sciences of the Georgian SSR.] XLI(2):471-475.

000002427 Marsh, R.E. (1972) Laboratory Data Sheets: House Mouse Tracking Powder: [Warfarin Efficacy]. (Unpublished study received Feb 24, 1975 under 655-443; prepared by [Univ. of California--Davis, Agricultural Experiment Station, Wildlife and Fisheries Biology Div.], submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:008981-B)

000002439 Marsh, R.E. (1975) Sulfaquinoxaline Can Make a Difference in a Tracking Powder. (Unpublished study received Feb 24, 1975 under 655-531; prepared by Univ. of California--Davis, [Agricultural Experiment Station], Wildlife and Fisheries Biology [Div.], submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:228221-A)

005007790 Marsh, R.E.; Howard, W.E. (1976) House mouse control manual: part two. III. Control. Pest Control 44(9):21-22,24,26,28,53-54.

005003392 Marsh, R.E.; Howard, W.E. (1977) Vertebrate control manual. Pest Control 45(10):24,26,28,32,34,36,50.

000004155 Marshall, E.F. (1979) Report: [Ratorex with Prolin]. (Unpublished study including analysis report and letter dated Jan 15, 1979 from V.W. Rogers to William Miller, received Jan 19, 1979 under 995-41; prepared by Bell Laboratories in cooperation with Prentiss Drug & Chemical Co., Inc., submitted by Mackwin Co., Winona, Minn.; CDL:236812-A)

005003820 Marstrand, P.K. (1974) The control of grey squirrels. Biologist 21(2):68-71.

005013669 Martin, A.D.; Steed, L.C.; Redfern, R.; Gill, J.E.; Huson, L.W. (1979) Warfarin-resistance genotype determination in the Norway rat, *Rattus norvegicus* . Laboratory Animals 13(3):209-214.

005002941 Martin, C.M.; Engstrom, P.F.; Chandor, S.B. (1970) Skin necrosis associated with warfarin sodium. California Medicine 113(5):78-80.

005010941 Martin, H.; Miles, J.R.W. (1953) Guide to the Chemicals Used in Crop Protection. 2nd ed. Ottawa, Ontario, Canada: Canada Department of Agriculture.

000002464 Martin, R. (1974) [Efficacy Data--Warfarin]. (Unpublished study including certificate of analysis, received Apr 23, 1974 under 655-19; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:022928-A)

000002440 Martin, R. (1974) [Rat Efficacy Data: Warfarin]. (Unpublished study received Jul 16, 1974 under 655-502; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:025008-A)

005001820 Martini, A.; Jaehnchen, E. (1976) Effect of 6-mercaptopurine on the elimination, distribution and anticoagulant action of warfarin in rats. Naunyn-Schmiedeberg's Archives of Pharmacology 293:R46.

005002480 Martini, A.; Jaehnchen, E. (1977) Studies in rats on the mechanism by which 6-mercaptopurine inhibits the anticoagulant effect of warfarin. Journal of Pharmacology and Experimental Therapeutics 201(3):547-553.

005002471 Mathur, P.P.; Smyth, R.D.; Herczeg, T.; Reavey-Cantwell, N.H. (1976) Induction of hepatic enzymes by methaqualone and effect on warfarin-induced hypoprothrombinemia. Journal of Pharmacology and Experimental Therapeutics 196(1):204-212.

005003935 Mathur, P.P.; Smyth, R.D.; Procaccini, R.L.; Reavey-Cantwell, N.H. (1974) Lack of drug-interaction between methaqualone and warfarin. Clinical Research 22(5):688.

005002477 Matschiner, J.T.; Bell, R.G.; Amelotti, J.M.; Knauer, T.E. (1970) Isolation and characterization of a new metabolite of phylloquinone in the rat. Biochimica et Biophysica Acta 201(2):309-315.

005003129 Matseoane, S.; Batts, J.A., Jr.; Mandeville, E.O. (1976) Ovarian hemorrhage complicating warfarin sodium anticoagulant therapy. American Journal of Obstetrics and Gynecology 124(7):766-767.

005004337 Mayhew, A.W.; Papworth, D.S.; Rudge, A.J.B. (1971) Protection of grain in commercial cereal silos. Milling 153(10):16-18.

005011224 McAuley Gracie, W. (1952) Prevention of damage by pests—progress in rodent control. Journal of The Royal Sanitary Institute LXXII(2):95-104.

005002472 McBurney, A.; Shearer, M.J.; Barkhan, P. (1978) Changes in the urinary metabolites of phylloquinone (vitamin K-1) in man following therapeutic anticoagulation with warfarin. Biochemical Pharmacology 27(3):273-278.

005003653 McCallion, D.J.; Phelps, N.E.; Hirsh, J.; Cade, J.F. (1971) Effects of Coumadin administered during pregnancy in rabbits and mice. Teratology 4(2):235-236.

005015414 McCarroll, P.J. (1955) Warfarin poisoning in pigs. I. Irish Veterinary Journal 9:232-234.

005004110 McCarroll, P.J.; Hunter, W.M.D.; McErlean, B.A. (1955) Warfarin poisoning in pigs. I-III. Irish Veterinary Journal 9:232-236.

005005942 McClelland, R.R.; Ramirez-Lassepas, M. (1976) Posterior fossa subdural hematoma demonstrated by vertebral angiography. Neuroradiology 10(1):181-185.

000002449 McConnon and Company (1975) Rodenticide Bioassay Report: [Warfarin]. (Unpublished study received Mar 11, 1975 under 995-47; CDL:228557-A)

005011155 McDavid, C.G.; Mood, E.W. (1972) Biological aspects of urban rat control. HSMHA Health Reports 87(1):17-24.

005007249 McDonald, F.D.; Myers, A.R.; Pardo, R. (1966) Adrenal hemorrhage during anticoagulant therapy. Journal of the American Medical Association 198(10):1052-1056.

005006044 McElnay, J.C.; D'Arcy, P.F. (1977) Interaction between azapropazone and warfarin [letter]. British Medical Journal 2(6089):773-774.

005006043 McElnay, J.C.; D'Arcy, P.F. (1978) Interaction between azapropazone and warfarin. Experientia 34(10):1320-1321.

005019844 McElnay, J.C.; D'Arcy, P.F. (1978) The effect of azapropazone on the binding of warfarin to human serum proteins. Journal of Pharmacy and Pharmacology 30(2):73.

005003302 McGirr, J.L.; Papworth, D.S. (1955) The toxicity of rodenticides: I. Sodium fluoroacetate, ANTU and warfarin. Veterinary Record 67:124-131.

005003209 McGiven, A.R. (1967) Blood coagulation and the effect of warfarin treatment on renal disease in NZB/NZW mice. British Journal of Experimental Pathology 48(5):552-555.

005009219 McHugh, T. (1951) How to kill rats with warfarin. Successful Farming 49(10):122,124.

005003939 McIntosh, T.J.; Rice, A.J.; Fouts, J.R.; Brunk, S.F.; Wilson, W.R. (1970) Decreased sensitivity to warfarin in myxedema. Journal of Laboratory and Clinical Medicine 76(5):889.

005004116 McIntosh, T.J.; Wilson, W.R.; Waters, L.; Fouts, J.R. (1971) Response to warfarin in hypothyroid rats. European Journal of Pharmacology 14(2):176-182.

005004255 McLaughlin, G.E.; McCarty, D.J., Jr.; Segal, B.L. (1966) Hemarthrosis complicating anticoagulant therapy: report of three cases. Journal of the American Medical Association 196(11):1020-1021.

005004109 McQueen, E.G. (1974) Drug displacement from protein-binding and redistributional interactions. Pages 122-128,*In Drugs and the Kidney. Basel, Switzerland: Karger. (Progress in Biochemical, Pharmacology, vol. 9)

005002470 Meehan, A.P. (1976) The evaluation of contact rodenticides for mouse control. International Biodeterioration Bulletin 12(2):59-63.

005011221 Mehta, R.S.; Parashar, L.K.; Vaishya, P.D. (1966) Clinical trial with warfarin sodium. Journal of the Association of Physicians of India 14(2):115-120.

005003626 Meinhold, J.M.; Reale, E.O.; Miller, W.A. (1979) Audit of anticoagulant therapy of pulmonary embolus, deep vein thrombosis and thrombophlebitis. American Journal of Hospital Pharmacy 36(2):214-218.

005017298 Melnikov, N.N. (1971) Chemistry of Pesticides. Edited by F.A. Gunther. New York: Springer-Verlag. (Residue reviews, vol. 36)

005007462 Meltzer, H. (1957) Zur qualitativen und quantitativen Bestimmung von 4-Oxycumarin-Derivaten. [The qualitative and quantitative determination of 4-hydroxycoumarin derivatives.] Nachrichtenblatt fuer den Deutschen Pflanzenschutzdienst (Berlin) 11(12):233-240.

005017974 Menzie, C.M. (1978) Metabolism of Pesticides: Update II. Washington, D.C.: U.S. Department of the Interior, Fish and Wildlife Service. (U.S. Fish and Wildlife Service special scientific report--Wildlife no. 212)

005015067 Metcalf, R.L. (1971) The chemistry and biology of pesticides. Pages 1-144, In Pesticides in the Environment. Part 1. Edited by R. White-Stevens. New York: Marcel Dekker.

005007097 Michael, R.H.; Alevizatos, A.C. (1975) Femoral neuropathy: a complication of anticoagulation. Maryland State Medical Journal 24(5):57-58.

005002479 Midha, K.K.; McGilveray, I.J.; Cooper, J.K. (1974) GLC determination of plasma levels of warfarin. Journal of Pharmaceutical Sciences 63(11):1725-1729.

005015990 Milhaud, G. (1968) Pesticides et animaux domestiques. [Pesticides and domestic animals.] Alimentation et la Vie 56(10/12):277-282.

005013362 Millar, R.C.; Ketcham, A.S. (1974) The effect of heparin and warfarin on primary and metastatic tumors. Journal of Medicine 5(1):23-31.

000002339 Miller, J.G. (1964) An Evaluation of the Acceptability of Salt in d'Con Ready Mix and d'Con Ready Mix Pellet Combinations: Report No. 45. (Unpublished study received Mar 20, 1967 under 3282-4; prepared by Univ. of Georgia, Coastal Plain Experiment Station, Animal Disease Dept., submitted by d-Con Co., Inc., New York, N.Y.; CDL:221391-A)

000002840 Miller, J.G. (1964) Recommendations for Incorporation of Pellet, and Salt in d'Con Ready Mix. (Unpublished study received Mar 20, 1967 under 3282-4; prepared by Univ. of Georgia, Georgia Coastal Plains Experiment Station, Animal Disease Dept., submitted by d-Con Co., Inc., New York, N.Y.; CDL:221391-B)

000002340 Miller, J.G. (1972) Development of New Rodenticide Baits. (Unpublished study received Apr 13, 1972 under 3282-4; prepared by Miller Associates, submitted by d-Con Co., Inc., New York, N.Y.; CDL:007253-A)

000002848 Miller, J.G. (1972) Rodenticide Pellets [Development: d-Con Pellets with Warfarin]. (Unpublished study received Jan 8, 1973 under 3282-15; prepared by Miller Associates, submitted by d-Con Co., Inc., New York, N.Y.; CDL:007254-A)

000002409 Miller, J.G. (1973) Meal Type Rodenticide Bait for Mice. (Unpublished study received Jul 9, 1973 under 3282-9; submitted by d-Con Co., Inc., New York, N.Y.; CDL:008564-A)

000003284 Miller, J.G. (1973) Meal Type Rodenticide Bait for Rats and Mice. (Unpublished study received Jul 9, 1973 under 3282-4; submitted by d-Con Co., Inc.; CDL:009771-A)

000002341 Miller, J.G. (1973) The Absence of Bait Shyness in d-Con Ready Mixed Formulations. (Unpublished study received Aug 30, 1973 under 3282-4; submitted by d-Con Co., Inc., New York, N.Y.; CDL:008685-A)

000002306 Miller, J.G. (1974) A 0.3% Warfarin Concentrate for Use with Two Prototype Consumer Mixed Baits; for Rats and Mice. (Unpublished study received May 30, 1974 under 3282-3; submitted by d-Con Co., Inc., New York, N.Y.; CDL:221390-C)

005002551 Miller, R.L. (1969) Hemopericardium with use of oral anticoagulant therapy. Journal of the American Medical Association 209(9):1362-1364.

005005475 Miller, R.R. (1974) Comprehensive prospective drug surveillance: a report from the Boston Collaborative Drug Surveillance Program. Pharmaceutisch Weekblad 109(20):461-481.

005002473 Milutinovich, J.; Follette, W.C.; Scribner, B.H. (1977) Spontaneous retroperitoneal bleeding in patients on chronic hemodialysis. Annals of Internal Medicine 86(2):189-192.

005014173 Mirkova, E.; Antov, G.; Vasileva, L.; Christeva, V.; Benchev, L. (1979) Study on the teratogenic effect of warfarin in rats [abstract]. Pages 115-115, In Proceedings of the 21st Congress of the European Society of Toxicology.

005013411 Mitchell, L.C. (1957) Separation and identification of ANTU, Pival, and warfarin by paper chromatography. Journal of the Association of Official Agricultural Chemists 40(4):1034-1037.

005019781 Mitchell, L.C. (1958) Separation and identification of chlorinated organic pesticides by paper chromatography. XI. A study of 114 pesticide chemicals: technical grades produced in 1957 and reference standards. Journal of the Association of Official Agricultural Chemists 41(4):781-816.

005013667 Moffat, A.C.; Owen, P.; Brown, C. (1978) Evaluation of weighted discriminating power calculations as an aid to the selection of chromatographic systems for the analyses of drugs. Journal of Chromatography 161:179-185.

005002724 Mogilner, B.M.; Freeman, J.S.; Blashar, Y.; Pincus, F.E. (1974) Reye's syndrome in three Israeli children: possible relationship to warfarin toxicity. Israel Journal of Medical Sciences 10(9):1117-1125.

005002706 Moldveen-Geronimus, M.; Merriam, J.C., Jr. (1967) Cholesterol embolization: from pathological curiosity to clinical entity. Circulation XXXV(5):946-953.

000002326 Monsanto Chemical (1956) Laboratory Report on Free Choice Consumption by Rats of Warfarin Solutions with and without Saccharin. (Unpublished study received Oct 24, 1956 under 70-43; submitted by Rigo Co., Inc., Buckner, Ky.; CDL:000147-A)

005012599 Montigel, C.; Pulver, R. (1953) Die antagonistische Wirkung der K-Vitamine bei Vergiftung mit Rodenticiden vom Typ des 4-Oxycumarins. [The antagonistic effect of K vitamins in poisoning with rodenticides of 4-hydroxycoumarin type.] Archives Internationales de Pharmacodynamie et de Therapie XCIV(4):395-405.

005010033 Moore, E.E. (1973) Pesticide sales and usage in Kentucky—1968. Pesticides Monitoring Journal 6(4):379-387.

005002053 Moore, J.R. (1967) Purpura after warfarin [letter] Lancet 2:516.

005006285 Morag, M.; Robertson Smith, D. (1971) The effect of two synthetic anticoagulant drugs (coumarin and inandione) in the ewe. Research in Veterinary Science 12(2):106-112.

005002707 Moreland, T.A.; Hewick, D.S. (1975) Studies on a ketone reductase in human and rat liver and kidney soluble fraction using warfarin as a substrate. Biochemical Pharmacology 24(21):1953-1957.

005020070 Morgan, D.G.; Petras, M.L. (1979) Variability in response to warfarin in natural populations of the house mouse [abstract]. Canadian Journal of Genetics and Cytology 21(4):573.

005005313 Morley, A.P., Jr. (1970) Obstruction of terminal small bowel and anticoagulant therapy. Southern Medical Journal 63(3):342-344.

005002942 Moses, R.G.; Warren, J.R. (1973) Coumarin necrosis. Medical Journal of Australia 2(2):76-77.

000002834 Motomco, Incorporated (19??) Physical-Chemical Specifications: Technical Grade Warfarin. (Unpublished study received Jun 23, 1970 under 3240-6; CDL:007230-A)

000002303 Motomco, Incorporated (1952) Studies on Cereal Insect Infestation in Rodent Baits. (Unpublished study received Feb 11, 1953 under 3240-2; CDL:123544-A)

005010253 Muehlendahl, K.E.v.; Etzold, R.; Krienke, E.G. (1979) Vergiftungen mit koagulationshemmenden Rattengiften. [Intoxication with anticoagulant rodenticides.] Monatsschrift fuer Kinderheilkunde 127(3):156-158.

005005306 Mueller-Berghaus, G.; Seegers, W.H. (1966) Some effects of purified autoprothrombin C in blood clotting. Thrombosis et Diathesis Haemorrhagica 16(3/4):707-722.

005002783 Mueller, W.E.; Wollert, U. (1975) Influence of various drugs on the binding of L-tryptophan to human serum albumin. Research Communications in Chemical Pathology and Pharmacology 10(3):565-568.

005003096 Mueller, W.E.; Wollert, U. (1976) Circular dichroism studies on the interaction of sulfonylureas with insulin. Naunyn-Schmiedeberg's Archives of Pharmacology 293(1):97-99.

005005019 Muenchberg, P. (1953) Neue chemische Waffen und Wege in der Nagerbekaempfung. [New chemical weapons and methods in the control of rodents.] Anzeiger fuer Schaedlingskunde XXVI(10):145-149.

005002728 Muirden, K.D.; Deutschman, P.; Phillips, M. (1974) Competition between salicylate and other drugs in binding to human serum protein in vitro. Australian and New Zealand Journal of Medicine 4(2):149-153.

005002651 Muirden, K.D.; Phillips, M.L. (1973) In vitro competition by anti-rheumatic drugs. Australian and New Zealand Journal of Medicine 3(5):534.

005013842 Muktha Bai, K.; Krishnakumari, M.K.; Majumder, S.K. (1978) Toxicity of calciferol, warfarin and their combinations to *Rattus norvegicus* (albino) and *R. rattus* . Pesticide Science 9(1):44-50.

000002426 Mulholland, K. (1974) Efficacy & Palatability Test on Ratorex with Prolin. (Unpublished study received May 8, 1975 under 655-246; prepared by [McConnon and Co.], submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:227055-A)

000002428 Mulholland, K. (1976) Rodenticide Bioassay Report. (Unpublished study received May 25, 1976 under 655-539; prepared by McConnon and Co., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:227056-A)

005002550 Mundy, D.E..; Quick, M.P.; Machin, A.F. (1976) Determination of warfarin in animal relicta and feedingstuffs by high-pressure liquid chromatography with confirmation of indentity by mass spectrometry. Journal of Chromatography 121(2):335-342.

005002652 Musa, M.N.; Lyons, L.L. (1976) Absorption and disposition of warfarin: effects of food and liquids. Current Therapeutic Research, Clinical and Experimental 20(4):630-633.

005002648 Musgrove, J.E.; Ho, W.C. (1966) Hematoma of the rectus abdominis muscle during anticoagulant therapy. Canadian Medical Association Journal 95(16):827.

005002649 Mustala, O.O.; Azarnoff, D.L. (1969) Effect of oxygen tension on drug levels and pharmacological action in the intact animal. Pages 37-41, *In* Proceedings of the Society for Experimental Biology and Medicine. Vol. 132. New York: Academic Press.

005006351 Mutz, H. (1959) Zur Frage der Wuehlmausbekaempfung mit Cumarinderivaten. [Vole control with coumarin derivatives.] Nachrichtenblatt fuer den Deutschen Pflanzenschutzdienst (Berlin) 13:8-10.

005003093 Myhr, B.C. (1973) A screen for pesticide toxicity to protein and RNA synthesis in HeLa cells. Journal of Agricultural and Food Chemistry 21(3):362-367.

005007801 Myhre, H.O.; Storen, E.J.; Auensen, C.A. (1973) Pre- or post-operative start of anticoagulation prophylaxis in patients with fractured hips. Journal of the Oslo City Hospitals 23(1):15-23.

005007099 Nade, S. (1972) Acute urinary suppression presumed due to bilateral ureteric obstruction by blood clot: an unusual feature of anticoagulant therapy. Medical Journal of Australia 1(8):378-380.

005010702 Naess, K. (1971) Interaksjon, antikoagulantia og blodningsfare. [Interaction, anticoagulants, and risks of hemorrhage.] Tidsskrift for den Norske Laegeforening. [Journal of the Norwegian Medical Association.] 91(18):1410-1411.

005003521 Naeye, R.L. (1956) Plasma thromboplastin component: influence of coumarin compounds and vitamin K on its activity in serum. Pages 101-104, In Proceedings of the Society for Experimental Biology and Medicine. Vol. 91. New York: Academic Press.

005016441 Nagaraju, M.; Joseph, R.R. (1976) Hepatitis following prophylactic administration of Konyne. University of Michigan Medical Center Journal 42(4):217-218.

005002722 Nagashima, R.; Levy, G. (1969) Comparative pharmacokinetics of coumarin anticoagulants. V: Kinetics of warfarin elimination in the rat, dog, and rhesus monkey compared to man. Journal of Pharmaceutical Sciences 58(7):845-849.

005002050 Nagashima, R.; O'Reilly, R.A.; Levy, G. (1969) Kinetics of pharmacologic effects in man: the anticoagulant action of warfarin. Clinical Pharmacology and Therapeutics 10(1):22-35.

005009982 Nagle, R. (1970) Unusual features of haemorrhage in a patient on warfarin sodium. Medicine, Science and the Law 10(2):110-111.

005002647 Nalbandian, R.M. (1970) Skin necrosis induced by coumarin congeners [letter]. Journal of the American Medical Association 211(10):1699.

005002967 Nalbandian, R.M.; Beller, F.K.; Kamp, A.K.; Henry, R.L.; Wolf, P.L. (1971) Coumarin necrosis of skin treated successfully with heparin. Obstetrics and Gynecology 38(3):395-399.

005002646 Nalbandian, R.M.; Mader, I.J.; Barrett, J.L.; Pearce, J.F.; Rupp, E.C. (1965) Petechiae, ecchymoses, and necrosis of skin induced by coumarin congeners: rare, occasionally lethal complication of anticoagulant therapy. Journal of the American Medical Association 192(7):603-608.

005002968 Narasimhan, P. (1974) Decreased sensitivity to oral anticoagulant therapy after attacks of migraine [letter]. Lancet 2(7889):1143.

000002462 Nease, R.E. (1976) Summary of Efficacy Data: Warfarin Plus: 876-116. (Unpublished study received Aug 8, 1977 under 876-116; submitted by Velsicol Chemical Corp., Chicago, Ill.; CDL: 231290-B)

000002422 Nease, R.E. (1976) Warfarin 876-115: Summary of Efficacy Data. (Unpublished study received Aug 10, 1977 under 876-115; submitted by Velsicol Chemical Corp., Chicago, Ill.; CDL;231287-A)

005014447 Nebbia, G. (1954) Determinazione del topicida 3-(alpha-acetonilbenzil)-4-idros-sicumarina nei preparati commerciali. [Determination of the toxicity of 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin in commercial preparation.] Bollettino dei Laboratori Chimica Provinciali. [Bulletin of the Provincial Chemical Laboratory.] 5:15-16.

005005028 Nelius, D. (1974) Aenderung der Antikoagulantientoleranz--III. Einfluss von Analgetika und Antiphlogistika. [Change in anticoagulant tolerance--III. Effects of analgesics and antiinflammatory agents.] Zeitschrift fuer Alternsforschung 28(4):369-372.

005002970 Nelson, D.S. (1963) Reaction to antigen in vivo of the peritoneal macrophages of guineapigs with delayed-type hypersensitivity: effects of anticoagulants and other drugs. Lancet 2(7300):175-176.

005002971 Nelson, D.S. (1965) The effects of anticoagulants and other drugs on cellular and cutaneous reactions to antigen in guinea-pigs with delayed-type hypersensitivity. Immunology 9(3):219-234.

005011908 Nemoto, T., inventor; Ikari Pharmaceutical Co., assignee (1973) Suiyosei pe-suto sassozai no seizohoho. [A method of manufacturing a water-soluble, paste rodenticide.] Japanese kokai 73 01121. Jan 9. 3 p.

005007028 Nemoto, T., inventor; Ikari Yakuhin Kabushiki Kaisha, assignee (1973) [Production method for moisture-proof rodenticide.] Japanese kokai 73 00056. Jan 5. 5 p. Int. Cl. A 01n 17/08.

005013704 Neskovic, N.; Gradojevic, Z. (1973) Uticaj varfarina na promene brojnosti populacije sivog pacova (*Rattus norvegicus* Berk.). [Effect of warfarin on population change of the gray rat (*Rattus norvegicus* Berk.).] Agrohemija. [Agrochemistry.] (1/2):45-48.

005009714 Nesvadba, J.; Adamec, Z. (1968) Otrava prasat warfarinem. [The poisoning of swine with warfarin.] Veterinarstvi. [Veterinary Medicine.] 18(11):507-511.

005003591 Neumeyer, J.; Gibbons, D.; Trask, H. (1969) Competition is hot in race for new, better products. Chemical Week 104(17):38-68.

005002242 Newland, H. (1968) Antagonism of the anti-thrombotic effect of warfarin by uric acid. American Journal of the Medical Sciences 256:44-52.

005002962 Newland, H. (1968) Antagonism of the antithrombotic effect of warfarin by uric acid. American Journal of the Medical Sciences 256(1):44-52.

005002049 Newland, H.; Nordoey, A. (1967) Effect of large doses of warfarin sodium on haemostasis and on ADP-induced platelet aggregation in vivo in the rat: a survey of experimental thrombosis and coumarin anticoagulant therapy. Cardiovascular Research 1(4):362-370.

005003094 Niarchos, A.P. (1971) Pericarditis after myocardial infarction [letter]. British Medical Journal 3(766):112.

005002779 Nicholls, D.P.; Shepherd, A.M.M. (1978) Altered warfarin metabolism in iron-deficient patient [letter]. Lancet 2(8082):215-216.

005007025 Niederland, T.R. (1977) Unterakcia lieciv na urovni biotransformacneho enzymoveho systemu v peceni a jej klinicky vyznam. [Interaction of drugs at the biotransformation enzymatic system level in the liver and its clinical value.] Bratislavske Lekarske Listy. [Bratislava Medical News.] 68(5):532-545.

005005626 Niedner, R.; Kayser, M.; Meyer, F. (1974) Rodentizide Wirkung von Warfarin: 1. Mitteilung: einfluss auf die Blutgerinnung. [Rodenticidal activity of warfarin: 1. The influence on blood coagulation.] Arzneimittel-Forschung 24(5):802-806.

005005627 Niedner, R.; Kayser, M.; Meyer, F. (1974) Rodentizide Wirkung von Warfarin: 2. Mitteilung: kinetik. [Rodenticidal activity of warfarin: 2. Communication: kinetics.] Arzneimittel-Forschung 24(6):922-924.

005005022 Niedner, R.; Kayser, M.; Reuter, N.; Meyer, F.; Perkow, W. (1973) Toxizitaet von Warfarin und Einfluss auf die Blutgerinnung von Ratten und Maeusen. [Toxicity of Warfarin and its influence onblood coagulation in rats and mice.] Arzneimittel-Forschung 23(1):102.

005005633 Niedner, R.; Meyer, F. (1974) Die Anwendung indirekter Antikoagulantien. [The use of indirect anticoagulants.] Zeitschrift fuer Allgemeinmedizin 50(32):1471-1476.

005005628 Niedner, R.; Oettingen, U. von; Kayser, M.; Meyer, F. (1974) Rodentizide Wirkung von Warfarin: 3. Mitteilung: Bindung an Serumproteine. [Rodenticidal action of warfarin: 3. Communication: binding to serum proteins.] Arzneimittel-Forschung 24(7):1039-1043.

005005941 Nies, A.S. (1974) Drug interactions. Medical Clinics of North America 58(5):965-975.

005006888 Nies, A.S.; Shand, D.G.; Wilkinson, G.R. (1976) Altered hepatic blood flow and drug disposition. Clinical Pharmacokinetics 1(2):135-155.

005002721 Nilsen, O.G.; Storstein, L.; Jacobsen, S. (1977) Effect of heparin and fatty acids on the binding of quinidine and warfarin in plasma. Biochemical Pharmacology 26(3):229-235.

005002964 Nilsson, C.M.; Horton, E.S.; Robinson, D.S. (1978) The effect of furosemide and bumetanide on warfarin metabolism and anticoagulant response. Journal of Clinical Pharmacology 18(2/3):91-94.

005011222 Nilsson, I.M. (1957) Recurrent hypoprothrombinaemia due to poisoning with a dicumarol-containing rat killer. Acta Haematologica XVII(3):176-182.

005013670 Nishimoto, S.K.; Price, P.A. (1979) Proof that the gamma-carboxyglutamic acid-containing bone protein is synthesized in calf bone: comparative synthesis rate and effect of coumadin on synthesis. Journal of Biological Chemistry 254(2):437-441.

005003095 Nishizawa, E.E. (1975) Motrin, warfarin and anti-coagulation. Federation Proceedings 34(3):874.

005004120 Niyogi, S.K.; Rieders, F. (1966) Futher studies on chelation as a method of exclusion screening for drugs. Journal of Forensic Sciences 11(1):105-108.

005002965 Noble, I.M. (1974) Prescribing in pregnancy. Practitioner 212(1271):657-664.

005013088 Noonan, S.M.; Barnhart, M.I.; Suttie, J.W. (1974) Drug modulations of hepatic fine structure and prothrombin synthesis. Thrombosis et Diathesis Haemorrhagica, Supplementum 57:87-113.

005002781 Noonan, S.M.; Lorusso, D.J.; Barnhart, M.I.; Suttie, J.W. (1974) Warfarin effect on rat liver ultrastructure, RNA content and polysome distribution. Thrombosis et Diathesis Haemorrhagica 32(2/3):366-381.

005003328 Noren, I.; Quick, A.J. (1963) Effect of warfarin, ethyl biscoumacetate, and phenindione on the factors of the prothrombin complex. Journal of Laboratory and Clinical Medicine 61(2):302-307.

005013232 Nyadzelin, K.T. (1957) Nyekatoryya danyya ab prymyanyenni deratyzatsyynaha preparata "zoakumaryna". [Some data on the application of the rodenticide preparation zoocoumarin.] Vestsi Akademii Navuk Belaruskai SSR, Seryya Biyalagichnykh Navuk. [Proceedings of the Academy of Sciences of the Belorussian SSR, Biological Sciences Series.] (4):85-91.

005006149 O'Reilly, R.A.; Aggeler, P.M. (1968) Phenylbutazone potentiation of anticoagulant effect: fluorometric assay of warfarin. Proceedings of the Society for Experimental Biology and Medicine 128(4):1080-1081.

005003833 O'Reilly, R.A.; Aggeler, P.M.; Hoag, M.S.; Leong, L. (1962) Studies on the coumarin anticoagulant drugs: the assay of warfarin and its biologic application. Thrombosis et Diathesis Haemorrhagica 8(1/2):82-95.

005003834 O'Reilly, R.A.; Aggeler, P.M.; Leong, L.S. (1964) Studies on the coumarin anticoagulant drugs: a comparison of the pharmacodynamics of dicumarol and warfarin in man. Thrombosis et Diathesis Haemorrhagica 11(1/2):1-22.

005003835 O'Reilly, R.A.; Welling, P.G.; Wagner, J.G. (1971) Pharmacokinetics of warfarin following intravenous administration to man. Thrombosis et Diathesis Haemorrhagica 25(1):178-186.

005007638 O'Connell, T.X.; Aston, S.J. (1974) Acute adrenal hemorrhage complicating anticoagulant therapy. Surgery, Gynecology and Obstetrics 139(3):355-357.

000002417 O'Connor, J.J. (1971) Evaluation of Pitch Pack Tag M Packaged in Different Types of Polyethylene. (Unpublished study including letter dated Mar 9, 1971 from J.C. Stoner to James O. Lee, Jr., received Mar 16, 1971 under 734-38; submitted by E.R. Squibb & Sons, Inc., New Brunswick, N.J.; CDL:004395-A)

005007107 O'Grady, J.F.; Nepomuceno, O.R.; Eisenberg, S.W.; Bacon, H.E. (1971) Hemorrhage into the ischiorectal fossa—a complication of anticoagulant therapy: report of a case. Diseases of the Colon and Rectum 14(5):398-399.

005003651 O'Reilly, R.A. (1967) Studies on the coumarin anticoagulant drugs: interaction of human plasma albumin and warfarin sodium. Journal of Clinical Investigation 46(5):829-837.

005004104 O'Reilly, R.A. (1969) Hereditary resistance to oral anticoagulant drugs: second reported kindred. Clinical Research 17(2):317.

005002458 O'Reilly, R.A. (1970) Second reported kindred of hereditary resistance to oral anticoagulant drugs. Federation Proceedings 29(2):382.

005003654 O'Reilly, R.A. (1970) The second reported kindred with hereditary resistance to oral anticoagulant drugs. New England Journal of Medicine 282(26):1448-1451.

005002055 O'Reilly, R.A. (1971) Interaction of several coumarin compounds with human and canine plasma albumin. Molecular Pharmacology 7(2):209-218.

005002468 O'Reilly, R.A. (1971) Vitamin K in hereditary resistance to oral anticoagulant drugs. American Journal of Physiology 221(5):1327-1330.

005002459 O'Reilly, R.A. (1972) Interaction of warfarin and disulfiram in man. Federation Proceedings 31(2):248.

005004105 O'Reilly, R.A. (1972) Sodium warfarin. Pharmacology 8(1):181-190.

005002460 O'Reilly, R.A. (1973) Comparative studies on the enantiomers of sodium warfarin in man. Federation Proceedings 32(3):289.

005009781 O'Reilly, R.A. (1973) Hazards of anticoagulant treatment: other drugs, other diseases. Thrombosis et Diathesis Haemorrhagica 56:211-217.

005004106 O'Reilly, R.A. (1973) Interaction of rifampin and warfarin in man. Clinical Research 21(2):207.

005002462 O'Reilly, R.A. (1973) Interaction of sodium warfarin and disulfiram (Antabuse) in man. Annals of Internal Medicine 78(1):73-76.

005002984 O'Reilly, R.A. (1973) Optical enantiomorphs of sodium warfarin in warfarin-sensitive and warfarin-resistant man. Blood 42(6):1001.

005006287 O'Reilly, R.A. (1973) The binding of sodium warfarin to plasma albumin and its displacement by phenylbutazone. Annals of the New York Academy of Sciences 226:293-308.

005002464 O'Reilly, R.A. (1974) Interaction of sodium warfarin and rifampin: studies in man. Annals of Internal Medicine 81(3):337-340.

005003315 O'Reilly, R.A. (1974) Mechanism of warfarin-rifampin interaction in man. Federation Proceedings 33(3):79.

005002605 O'Reilly, R.A. (1974) Studies on the optical enantiomorphs of warfarin in man. Clinical Pharmacology and Therapeutics 16(2):348-354.

005002985 O'Reilly, R.A. (1974) The pharmacodynamics of the oral anticoagulant drugs. Progress in Hemostasis and Thrombosis 2:175-213.

005002937 O'Reilly, R.A. (1975) Combining phenylbutazone with sodium warfarin contraindicated. Drug Therapy 5(4):46-47.

005002463 O'Reilly, R.A. (1975) Interaction of chronic daily warfarin therapy and rifampin. Annals of Internal Medicine 83(4):506-508.

005002637 O'Reilly, R.A. (1975) Stereospecific interaction of warfarin and metronidazole. Federation Proceedings 34(3):259.

005002876 O'Reilly, R.A. (1976) The stereoselective interaction of warfarin and metronidazole in man. New England Journal of Medicine 295(7):354-357.

005003933 O'Reilly, R.A. (1977) Stereoselective drug interactions with racemic warfarin and its enantiomorphs. Clinical Research 25(2):146.

005005029 O'Reilly, R.A. (1978) Warfarin and wine. Clinical Research 26(2):145.

005019952 O'Reilly, R.A. (1980) Interaction of spironolactone and racemic warfarin in man [abstract]. Clinical Research 28(1):69.

005003316 O'Reilly, R.A.; Aggeler, P.M. (1965) Coumarin anticoagulant drugs: hereditary resistance in man. Federation Proceedings 24(6):1266-1273.

005002870 O'Reilly, R.A.; Aggeler, P.M. (1966) Surreptitious ingestion of coumarin anticoagulant drugs. Annals of Internal Medicine 64(5):1034-1041.

005002056 O'Reilly, R.A.; Aggeler, P.M. (1968) Phenylbutazone potentiation of anticoagulant effect: fluorometric assay of warfarin. Pages 1080-1081, In Proceedings--Society for Experimental Biology andMedicine. Vol. 128. New York: Academic Press.

005002425 O'Reilly, R.A.; Aggeler, P.M.; Hoag, M.S.; Leong, L. (1962) Studies on the coumarin anticoagulant drugs: the assay of warfarin and its biologic application. Thrombosis et Diathesis Haemorrhagica 8:82-95.

005002725 O'Reilly, R.A.; Aggeler, P.M.; Hoag, M.S.; Leong, L.S.; Kropatkin, M.L. (1964) Hereditary transmission of exceptional resistance to coumarin anticoagulant drugs: the first reported kindred. New England Journal of Medicine 271(16):809-815.

005003649 O'Reilly, R.A.; Aggeler, P.M.; Leong, L. (1962) The metabolism of warfairn. Journal of Clinical Investigation 41(6):1390.

005002638 O'Reilly, R.A.; Aggeler, P.M.; Leong, L.S. (1962) Correlation of the metabolism and biologic effect of warfarin in man. Circulation 26(4):769-770.

005003650 O'Reilly, R.A.; Aggeler, P.M.; Leong, L.S. (1963) Studies on the coumarin anticoagulant drugs: the pharmacodynamics of warfarin in man. Journal of Clinical Investigation 42(10):1542-1551.

005002260 O'Reilly, R.A.; Aggeler, P.M.; Leong, L.S. (1963) The metabolism of warfarin in man. Pharmacologist 5(2):233.

005002466 O'Reilly, R.A.; Levy, G. (1970) Pharmacokinetic analysis of potentiating effect of phenylbutazone on anticoagulant action of warfarin in man. Journal of Pharmaceutical Sciences 59(9):1258-1261.

005002639 O'Reilly, R.A.; Motley, C.H. (1976) Determination of warfarin and its metabolites in human plasma by high-pressure liquid chromatography. Federation Proceedings 35(3):756.

005008222 O'Reilly, R.A.; Motley, C.H. (1979) Racemic warfarin and trimethoprim-sulfamethoxazole interaction in humans. Annals of Internal Medicine 91(1):34-36.

005002465 O'Reilly, R.A.; Nelson, E.; Levy, G. (1966) Physicochemical and physiologic factors affecting the absorption of warfarin in man. Journal of Pharmaceutical Sciences 55(4):435-437.

005009782 O'Reilly, R.A.; Pool, J.G. (1976) Warfarin and the warfarin-resistant rat. Pages 21-35, _In_ Animal Models of Thrombosis and Hemorrhagic Diseases, 1975. Bethesda, Md.: U.S. Department of Health, Education and Welfare, National Institutes of Health. (DHEW pubication no. (NIH) 76-982)

005003317 O'Reilly, R.A.; Pool, J.G.; Aggeler, P.M. (1968) Hereditary resistance to coumarin anticoagulant drugs in man and rat. Annals of the New York Academy of Sciences 151(2):913-931.

005002938 O'Reilly, R.A.; Sahud, M.A.; Aggeler, P.M. (1971) Impact of aspirin and chlorthalidone on the pharmacodynamics of oral anticoagulant drugs in man. Annals of the New York Academy of Sciences 179:173-186.

005011062 O'Reilly, R.A.; Sahud, M.A.; Robinson, A.J. (1972) Studies on the interaction of warfarin and clofibrate in man. Thrombosis et Diathesis Haemorrhagica 27(2):309-318.

005002461 O'Reilly, R.A.; Trager, W.F. (1978) Stereoselective interaction of phenylbutazone with 13_{C}-12_{C}- labeled racemates of warfarin in man. Federation Proceedings 37(3):545.

005019951 O'Reilly, R.A.; Trager, W.F.; Motley, C.H.; Howald, W. (1980) Stereoselective interaction of phenylbutazone with [Clinical Investigation 65(3):746-753.

005002730 Oakley, C.; Doherty, P. (1976) Pregnancy in patients after valve replacement. British Heart Journal 38(11):1140-1148.

005013666 Odam, E.M.; Pepper, H.W.; Townsend, M.G. (1979) A study of the persistence of warfarin on wheat bait used for the control of grey squirrels (_Sciurus carolinensis_). Annals of Applied Biology 91(1):81-89.

005010703 Odam, E.M.; Tarrant, K.A.; Townsend, M.G. (1975) Method for the elution of compounds from thin-layer chromatography plates. Laboratory Practice 24(10):670.

005002729 Odam, E.M.; Townsend, M.G. (1976) The determination of warfarin in animal tissues by electron-capture gas-liquid chromatography. Analyst 101(1203):478-484.

005002983 Odar-Cederlof, I. (1977) Plasma protein binding of phenytoin and warfarin in patients undergoing renal transplantation. Clinical Pharmacokinetics 2(2):147-153.

005003813 Odegaard, A.E. (1972) Undersokelse av interaksjon mellom warfarin og diazepam. [A study of the interaction between warfarin and diazepam.] Tidsskrift for den Norske Laegeforening. [Journal of the Norwegian Medical Association.] 92(24):1520-1521.

005005971 Odegaard, A.E. (1974) Undersokelse av interaksjon mellom antikoagulantia og indometacin. [Investigation of interaction between anticoagulants and indomethacin.] Tidsskrift for den Norske Laegeforening. [Journal of the Norwegian Medical Association.] 94(33):2313-2314.

000002397 Oehme, F.W. (1973) Test Method for Palatability and Efficacy of Warfarin Bait (Gordon Corporation), Test II. (Unpublished study including product analysis report, received Apr 19, 1973 under 2217-601; prepared by Kansas State Univ., College of Veterinary Medicine, submitted by PBI Gordon Corp., Kansas City, Kans.; CDL:006794-A)

005003089 Oester, Y.T.; Keresztes-Nagy, S.; Mais, R.F.; Becktel, J.; Zaroslinski, J.F. (1976) Effect of temperature on binding of warfarin by human serum albumin. Journal of Pharmaceutical Sciences 65(11):1673-1677.

005002604 Oester, Y.T.; Mais, R.; Keresztes-Nagy, S.; Zaroslinski, J. (1971) Drug displacement interactions: warfarin binding by albumin. Pharmacologist 13(2):309.

005005618 Oettingen, U. von; Niedner, R.; Meyer, F. (1975) Rodentizide Wirkung von Warfarin: 4. Mitteilung: Bindung an Maeuse- und Rattenalbumin. [Rodenticidal action of warfarin: 4. Binding to serum albumin of mice and rats.] Arzneimittel-Forschung 25(11):1705-1706.

005018689 Okuda, T.; Ashino, K.; Egawa, Y.; Harigaya, S.; Suzuki, M. (1959) Kosei busshitsu, sikrohekishiimido ni kansuru kenkyu (Dai 3-po), sikurohekishiimido oyobi kanren busshitsu no kuryu sayo. [Studies on Streptomyces antibiotic, cycloheximide. III. Rodent repellency of cycloheximide and its related compounds.] Yakugaku Zasshi. [Journal of the Pharmaceutical Society of Japan.] 79(2):193-197.

005006354 Okutani, M. (1959) 3-(Alpha-acetonylbenzyl)-4-hydroxycoumarin no sotainai shocho to chishi to no kankei ni tsuite. [On the relationship between the bearing of 3-(alpha-acetonylbenzyl)-4-hydrocoumarin administered in rats and the animals' fatality.] Osaka Shiritsu Daigaku Igaku Zasshi. [Journal of the Osaka City Medical Center.] 8(2):295-308.

000002345 Oleyar, M.E. (1974) Efficacy of Rat and Mouse Bait Packets. (Unpublished study received Dec 13, 1974 under 3770-177; prepared by Midwestern Laboratories, submitted by Economy Products Co., Omaha, Nebr.; CDL:028568-A)

005006279 Olmer, J.; Mongin, M.; Casanova, P.; Muratore, R.; Olmer, R.J. (1966) L'absorption clandestine de derives coumariniques. [Clandestine absorption of coumarin derivatives.] Nouvelle Revue Francaise d'Hematologie 6(5):689-691.

005009949 Omura, T.; Morishita, S.; Aikawa, C.; Ueda, Y. (1969) Koryuporarogurafi ni yoru warufarin no teiryo. [A.C. polarographic determination of warfarin.] Bunseki Kagaku. [Japan Analyst.] 18(8):943-947.

005002726 Orme, M.; Breckenridge, A. (1970) Induction of drug metabolizing enzymes in man. Clinical Science 39(3):11P.

005002467 Orme, M.; Breckenridge, A.; Brooks, R.V. (1972) Interactions of benzodiazepines with warfarin. British Medical Journal 3(5827):611-614.

005002818 Orme, M.; Breckenridge, A.; Cook, P. (1976) Warfarin and Distalgesic interaction. British Medical Journal 1(6003):200.

005002640 Orme, M.; Breckenridge, A.; O'Reilly, R.A. (1976) Enantiomers of warfarin and phenobarbital and reply [letter]. New England Journal of Medicine 295(26):1482-1483.

005004107 Orme, M.L.; Lewis, P.J.; De Swiet, M.; Serlin, M.J.; Sibeon, R.; Baty, J.D.; Breckenridge, A.M. (1977) May mothers given warfarin breast-feed their infants. British Medical Journal 1(6076):1564-1565.

005005631 Ortega, M. (1951) "Rax-Warfarin", el nuevo exterminador de ratas, ratones y toda clase de roedores. ["Rax-Warfarin", the new exterminator of rats, mice and every type of rodent.] Tierra 6:726-727.

005003318 Oshiro, D.K. (1975) Coumadin-induced hemorrhagic syndrome and heart lesions in swine. Federation Proceedings 34(3):873.

005001702 Osweiler, G.D. (1969) Incidence and diagnostic considerations of major small animal toxicoses. Journal of the American Veterinary Medical Association 155(12):2011-2015.

000002845 Osweiler, G.D. (1973) Evaluation of Palatability and Efficacy of a Coumarin Rodenticide (NuBro Rat and Mouse Bait). (Unpublished study received Dec 14, 1973 under 6877-3; prepared by Iowa State Univ., Veterinary Diagnostic Laboratory, Toxicology Section, submitted by B & N Products Co., Harlan, Iowa; CDL:221518-A)

005005033 Osweiler, G.D. (1973) The influence of an orally administered antibiotic combination on the toxicity of warfarin to swine. Dissertation Abstracts International B 34(5):2365.

005004108 Osweiler, G.D. (1978) Hemostatic function in swine as influenced by warfarin and an oral antibacterial combination. American Journal of Veterinary Research 39(4):633-638.

005008366 Otagiri, M.; Otagiri, Y.; Perrin, J.H. (1979) Some fluorescent investigations of the interaction between the enantiomers of warfarin and human serum albumin. International Journal of Pharmaceutics 2(5/6):283-294.

005014325 Ottinger, R.S.; Blumenthal, J.L.; Dal Porto, D.F.; Gruber, G.I.; Santy, M.J.; Shih, C.C. (1973) Recommended Methods of Reduction, Neutralization, Recovery or Disposal of Hazardous Waste. Volume XIV. Summary of Waste Origins, Forms, and Quantities. Cincinnati, Ohio: U.S. Environmental Protection Agency, National Environmental Research Center. (EPA-670/2-73-053-n; available from: NTIS, Springfield, VA; PB-224 593)

005006890 Overman, R.S.; Stahmann, M.A.; Huebner, C.F.; Sullivan, W.R.; Spero, L.; Doherty, D.G.; Ikawa, M.; Graf, L.; Roseman, S.; Link, K.P. (1944) Studies on the hemorrhagic sweet clover disease: XIII. Anticoagulant activity and structure in the 4-hydroxycoumarin group. Journal of Biological Chemistry 153:5-24.

005013665 Owen, P.; Pendlebury, A.; Moffat, A.C. (1978) Choice of thin-layer chromatographic systems for the routine screening for acidic drugs during toxicological analyses. Journal of Chromatography 161:195-203.

005007100 Owens, D.E.; Calcaterra, T.C.; Aarstad, R.A. (1975) Retropharyngeal hematoma: a complication of therapy with anticoagulants. Archives of Otolaryngology 101(9):565-568.

005001799 Packer, J.M. (1972) Radiologic seminar CXXI: hemomediastinum associated with anticoagulant therapy. Journal of the Mississippi State Medical Association 13(10):434-435.

005013546 Palacios-Macedo, X.; Diaz-Devis, C.; Escudero, J. (1969) Fetal risk with the use of coumarin anticoagulant agents in pregnant patients with intracardiac ball valve prosthesis. American Journal of Cardiology 24(6):853-856.

005001803 Palmateer, S.D. (1974) Laboratory testing of albino rats with anticoagulant rodenticides. Pages 63-72, *In* Proceedings--Vertebrate Pest Conference. No. 6.

005000624 Palmateer, S.D.; McCann, J.A. (1976) Relationship of acceptance and mortality of anticoagulant baits to rats. Bulletin of Environmental Contamination and Toxicology 15(6):750-755.

005002423 Papo, I.; Luongo, A. (1974) Massive intramedullary hemorrhage in a patient on anticoagulants: case report. Journal of Neurosurgical Sciences 18(4):268-270.

005005303 Papworth, D.S. (1958) A review of the dangers of warfarin poisoning to animals other than rodents. Journal, Royal Society of Health 78:52-60.

000002459 Papworth, D.S. (1958) A review of the dangers of warfarin poisoning to animals other than rodents. Royal Society of Health Journal 78( ):52-60. (Also In unpublished submission received Feb 7, 1963 under unknown admin. no.; submitted by McLaughlin Gormley King Co., Minneapolis, Minn.; CDL:221990-D)

005002028 Papworth, D.S.; Rudge, A.J.B. (1971) The quantities of pesticides used for the protection of stored grain and the control of harmful mammals on British farms. International Pest Control 13(6):17,19-21.

005002431 Papworth, D.S.; Taylor, J.K. (1975) Pesticides used in commercial grain stores. Part 3. Journal of Flour and Animal Feed Milling 157(7):34-35,37.

005001731 Parsa, F.; Wilson, S.E. (1974) Bleeding diverticulosis in patients on oral anticoagulants. American Journal of Surgery 127(6):708-710.

005020072 Partridge, G.G. (1979) Relative fitness of genotypes in a population of *Rattus norvegicus* polymorphic for warfarin resistance. Heredity 43(2):239-246.

005001943 Passananti, G.T.; Shively, C.A.; Vesell, E.S. (1975) Orally administered dimethyl sulfoxide: its effects on blood concentrations of salicylic acid, sulfanilamide, and warfarin. Annals of the New York Academy of Sciences 243:311-316.

005001795 Patten, B.M. (1969) Neuropathy induced by hemorrhage. Archives of Neurology 21(4):381-386.

005007492 Pauli, R.M.; Hall, J.G. (1979) Warfarin embryopathy [letter]. Lancet 2(8134):144.

005001735 Pauli, R.M.; Madden, J.D.; Kranzler, K.J.; Culpepper, W.; Port, R. (1976) Warfarin therapy initiated during pregnancy and phenotypic chondrodysplasia punctata. Journal of Pediatrics 88(3):506-508.

000002338 Paulson, M.C. (1951) A Field Study of the Comparative Acceptability of a Commercially Prepared Bait, Fresh Ground Whole Yellow Corn, and Food Refuse, Utilizing Wild Norway Rats. (Unpublished study received 1952 under 3282-4; prepared by Bradley Univ., submitted by d-Con Co., Inc., New York, N.Y.; CDL:004286-A)

000002421 Pearson, B.R. (1974) Multiple Dose Rodenticide Test on Albino Mice [and Albino Rats] Using Standard Laboratory Diet and New Proposed (Red-I-Cat Containing Prolin) Bait. (Unpublished study received Aug 15, 1974 under 728-24; submitted by Southland Pearson & Co., Mobile, Ala.; CDL:106620-A)

000002420 Pearson, B.R. (1974) Multiple Dose Rodenticide Test on Albino Mice [and Albino Rats] Using Standard Laboratory Diet and New Proposed "Red-I-Cat Containing Prolin" Bait. (Unpublished study received May 10, 1974 under 728-24; submitted by Southland Pearson & Co., Mobile, Ala.; CDL:100888-A)

005001711 Pedersen, P.V.; Crooks, M.J.; Brown, K.F. (1977) Method of obtaining drug-macromolecule binding parameters directly from dynamic dialysis data. Journal of Pharmaceutical Sciences 66(10):1458-1461.

005001957 Penumarthy, L.; Oehme, F.W. (1978) Treatment and prothrombin responses during warfarin toxicosis in rats and mice. Toxicology 10(4):377-401.

005001802 Peoples, S.A. (1970) The pharmacology of rodenticides. Pages 15-18, *In* Proceedings--Vertebrate Pest Conference. No. 4.

005001955 Pepper, E.S.; Wosilait, W.D. (1977) Multiple factors affecting excretion of warfarin in rats. Research Communications in Chemical Pathology and Pharmacology 18(2):275-281.

000014342 Perrin, (19??) Toxicity in Humans. (Unpublished study received Dec 28, 1976 under 7173-168; prepared by Clinic of Cardiology in cooperation with Lyonnaise Industrielle Pharmaceutique, S.A., submitted by Chempar Chemical Co., Inc., New York, N.Y.; CDL: 238484-G)

005001910 Perrin, J.H.; Chan, P.; Wilsey, M. (1972) Evaluation of an inert, highly protein bound material as a parenteral excipient. Bulletin of the Parenteral Drug Association 26(4):182-192.

005015259 Peruchon de Brochard, J. (1952) Las antivitaminas para la destruccion de ratas y ratones. [Antivitamins for the destruction of rats and mice.] Reus Avicola y Agricola 1:50-52.

005001339 Peterson, J. (1967) Feed rats to death--with anticoagulant poisoned bait. Agway Coop 3(7):15.

005006264 Petrie, J.C.; Howie, J.G.R.; Durno, D. (1974) Awareness and experience of general practitioners of selected drug interactions. British Medical Journal 2(913):262-264.

005001942 Phillipps, D.L.; Miller, J.N.; Burns, D.T.; Bridges, J.W. (1976) Phosphorimetric analysis using a modified filter fluorimeter. Analytical Letters 9(2):137-146.

005001952 Phillips, D.; Rowe, J. (1976) Warfarin: a question of balance. New Scientist 70(1001):400-401.

005001949 Phillips, W.A.; Ratchford, J.M.; Schultz, J.R. (1976) Effects of colestipol hydrochloride on drug absorption in the rat II. Journal of Pharmaceutical Sciences 65(9):1285-1291.

005001953 Phillipson, J.; Wood, D. (1976) Poisoning grey squirrels: a threat to wildlife. New Scientist 70(1001):398-400.

005006270 Piel-Desruisseaux, J. (1954) Nouvelles methodes de lutte contre les rats. [New methods of rat control.] Agriculture Pratique 118:25-26.

005001793 Pimentel, D. (1955) The control of the mongoose in Puerto Rico. American Journal of Tropical Medicine and Hygiene 4(1):147-151.

005005946 Pinching, A.J.; Doving, K.B. (1974) Selective degeneration in the rat olfactory bulb following exposure to different odours. Brain Research 82(2):195-204.

005001796 Pingale, S.V.; Muthu, M. (1953) Control of rat damage in stored foodstuffs--1. A comparative study of two coumarin derivatives. Bulletin of the Central Food Technological Research Institute, Mysore 2:232-236.

005002207 Pohl, L.R. (1975) Phenprocoumon and Warfarin: Aspects of the Biotransformation of the Coumarin Anticoagulants: Doctoral Dissertation. San Francisco, Calif.: University of California. (Available from: University Microfilms, Ann Arbor, MI, order no. 75-11,225)

005001954 Pohl, L.R.; Bales, R.; Trager, W.F. (1976) Warfarin: stereochemical aspects of its metabolism *in vivo* in the rat. Research Communications in Chemical Pathology and Pharmacology 15(2):233-256.

005001951 Pohl, L.R.; Elmer, G.W.; Haddock, R.; Neil, J.M.; Trager, W.F. (1973) Reduction of warfarin by *Saccharomyces cerevisae* [sic. *cerevisiae*] Lloydia 36(4):434.

005002205 Pohl, L.R.; Nelson, S.D.; Garland, W.A.; Trager, W.F. (1975) The rapid identification of a new metabolite of warfarin via a chemical ionization mass spectrometry ion doublet technique. Biomedical Mass Spectrometry 2(1):23-30.

005002623 Pohl, L.R.; Nelson, S.D.; Porter, W.R.; Trager, W.F.; Fasco, M.J.; Baker, F.D.; Fenton, J.W., II (1976) Warfarin--stereochemical aspects of its metabolism by rat liver microsomes. Biochemical Pharmacology 25(19):2153-2162.

005001944 Pohl, L.R.; Porter, W.R.; Trager, W.F. (1977) Stereochemical biotransformation of warfarin as a probe of the homogeneity and mechanism of microsomal hydroxylases. Biochemical Pharmacology 26(2):109-114.

005005972 Polezhaev, V.G. (1961) Primenenie primanki s zookumarinom v deratizatsionnoi praktike. [The use of zoocoumarin baits in rat extermination.] Trudy Tsentral'nogo Nauchno-Issledovatel'skogo Dezinfektsionnogo Instituta. [Transactions of the Central Scientific Research Institute of Disinfection.] 14:272-274.

005005025 Polizu, A. (1960) O noua metoda colorimetrica pentru analiza derivatilor de oxicumarina. [Colorimetric method for the analysis of hydroxycoumarin derivatives.] Comunicarile Academiei Republicii Populare Romine. [Communications of the Academy of the People's Republic of Romania.] 10:773-778.

005001732 Pollitzer, R. (1950) A note on the use of anti-coagulants for rat extermination. Bulletin of the World Health Organization 3:343-345.

005001947 Polson, J.B. (1969) An analysis of the action of selected antibiotics on the prothrombin time of rats. Dissertation Abstracts International B 29(9):3425.

005001801 Polson, J.B.; Wosilait, W.D. (1969) Effect of selected antibiotics on prothrombin time of rats and the relationship to coumarin anticoagulants. Pages 963-967, In Proceedings--Society for Experimental Biology and Medicine. Vol. 132. New York: Academic Press.

005001797 Pond, S.M.; Graham, G.G.; Birkett, D.J.; Wade, D.N. (1975) Effects of tricyclic antidepressants on drug metabolism. Clinical Pharmacology and Therapeutics 18(2):191-199.

005005001 Ponomarev, B.P.; Kharin, Y. (1964) Opyt bor'by s grizunami. [Experience with rodent control.] Veterinariya. [Veterinary Science.] 11:93-95.

005005630 Ponomarev, B.P.; Kharin, Y.T. (1970) Proizvodstvo baktokumarina i primenenie ego dlia deratizatsii zhivotnovodcheskikh pomeshcheniy v khoziaystvakh Irkutskoy oblasti. [Production of bactocoumarin and its use for exterminating the rats from livestock barns on farms in the Irkutsk region.] Pages 224-228, In Problemy Zoogigieny i Veterinarnoi Sanitarii na Zhivotnovodcheskikh Fermakh, Materialy Plenuma. [Problems of Animal Hygiene and Veterinary Sanitation on Stock Farms, Materials of the Plenum.]; Jun, 1967, Omsk. Edited by A.A. Polyakov. Omsk, USSR: Vsesoiuzaia Akademiia Sel'skokhoziaistvennykh Nauk, Otdelenie Zhivotnovodstva.

005001800 Pool, J.G. (1964) Inhibition of all protein synthesis in rat liver slices by anticoagulant drugs. Pages 347-351, In Proceedings--IX Congress of the International Society of Hematology; 1962, Mexico City, Mexico. Vol. 2. Symposium on Coagulation and Hemophilia. Mexico City: Universidad Nacional Autonoma de Mexico.

005001941 Pool, J.G.; Borchgrevink, C.F. (1964) Comparison of rat liver response to coumarin administered in vivo versus in vitro. American Journal of Physiology 206(1):229-238.

005003286 Pool, J.G.; O'Reilly, R.A.; Schneiderman, L.J.; Alexander, M. (1968) Warfarin resistance in the rat. American Journal of Physiology 215(3):627-631.

005010045 Popovic, M. (1970) Trovanja svinja pesticidima. [Poisoning of pigs by pesticides.] Veterinarski Glasnik. [Veterinary Bulletin.] 24(2):137-141.

005001948 Porter, W.R. (1976) Synthesis, structure in solution and stereochemical aspects of the microsomal metabolism of warfarin and phenprocoumon. Dissertation Abstracts International B 37(5):2264-2265.

005001798 Porter, W.R.; Trager, W.F. (1977) Structural reassignment of the dehydration product of 2'-hydroxywarfarin. Journal of Heterocyclic Chemistry 14(2):319-320.

005008375 Porter, W.R.; Wheeler, C.; Trager, W.F. (1979) Enatiomers of warfarin and phenprocoumon as model substrates for distinguishing inducible forms of hepatic microsomal cytochrome P-450 [abstract no. 326]. Toxicology and Applied Pharmacology 48(1):163.

005001950 Powell, M.L.; Pope, B.; Elmer, G.W.; Trager, W.F. (1977) Biliary excretion of warfarin metabolites and their metabolism by rat gut flora. Life Sciences 20(1):171-177.

005003285 Powell, W.J., Jr.; Clancy, R.L.; Graham, T.P., Jr.; Gilmore, J.P. (1967) Myocardial effects of bishydroxycoumarin and warfarin. American Journal of Cardiology 20(5):648-653.

005009950 Pozetti, G.L.; Cabrera, A. (1970) Estudo cromatografico de cumarinas anticoagulantes derivadas da 4-hidroxicumarina. [Chromatographic study of coumarin anticoagulants derived from 4-hydroxycoumarin.] Revista da Faculdade de Farmacia e Odontologia de Araraquara. [Review of the Faculty of Pharmacy and Odontology of Araraquara.] 4(1):83-87.

005001734 Pranitis, P.A.F.; Stolman, A. (1975) The differential elution of drugs from XAD-2 resin. Journal of Forensic Sciences 20(4):726-730.

005001733 Prasad, V.K.; Granatek, A.P.; Mihotic, M.M. (1974) Physical compatibility and chemical stability of cephapirin sodium in combination with non-antibiotic drugs in large-volume parenteral solutions— part II. Current Therapeutic Research, Clinical and Experimental 16(5S):540-572.

005002066 Pratt, H.D. (1958) The changing picture of murine typhus in the United States. Annals of the New York Academy of Sciences 70(3):516-527.

005009327 Pratt, H.D.; Bjornson, B.F. (1969) Vector control today. Journal of Milk and Food Technology 32(6):220-223.

005002206 Preis, S. (1957) The Resolution of Warfarin [3-(a-Acetonylbenzyl)-4-Hydroxycoumarin]: Doctoral Thesis. Madison, Wis.: University of Wisconsin. (Available from: University Microfilms International, Ann Arbor, MI)

005002629 Preis, S.; West, B.D.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1966) Resolution of warfarin and marcoumar. U.S. patent 3,239,529. Mar 8. 2 p. Cl. 260-284.

000002442 Prentiss Drug & Chemical Company, Incorporated (1976) Prentox Co-Rax Pelleted Bait: Acute Oral LD_{50} (Rat--for Each Active Ingredient). (Unpublished study including request for a waiver, received Mar 25, 1976 under 655-539; CDL:231460-C)

000002441 Prentiss Drug & Chemical Company, Incorporated (1976) Prentox Co-Rax Pelleted Bait: Storage Stability (Formulated Product). (Unpublished study received Mar 25, 1976 under 655-539; CDL: 231460-B)

000002432 Prentiss Drug & Chemical Company, Incorporated (1976) Prentox Rax Water Soluble Warfarin RTU: Acute Oral LD_{50} (Rat--for Each Active Ingredient). (Unpublished study including request for a waiver, received Mar 25, 1976 under 655-543; CDL:231461-G)

000002431 Prentiss Drug & Chemical Company, Incorporated (1976) Prentox Rax Water Soluble Warfarin RTU: Storage Stability (Formulated Product). (Unpublished study received Mar 25, 1976 under 655-543; CDL:231461-F)

005001794 Preziosi, P.; Bianchi, A.; De Vleeschhouwer, G.R.; De Schaepdryver, A.F. (1959) On the pulmonary and cardiovascular effects of warfarin sodium. Archives Internationales de Pharmacodynamie et de Therapie CXXIII(1/2):227-238.

005005624 Pribilla, O. (1966) Mord durch Warfarin. [Murder by warfarin.] Archiv fuer Toxikologie. [Archives of Toxicology.] 21(4):235-249.

005001911 Price, M.D. (1951) Advances in rodent control. Food 20:210-214.

005001912 Prier, J.E.; Derse, P.H. (1962) Evaluation of the hazard of secondary poisoning by warfarin-poisoned rodents. Journal of the American Veterinary Medical Association 140(4):351-354.

000002470 Prier, R.F.; Derse, P.H. (1962) Evaluation of the hazard of secondary poisoning by Warfarin-poisoned rodents. Journal of the American Veterinary Medical Association 140(4):351-354. (Also * *In* unpublished submission received May 30, 1972 under unknown admin. no.; submitted by Velsicol Chemical Corp., Chicago, Ill.; CDL:230307-F)

005002027 Procaccini, R.L.; Mathur, P.P.; Smyth, R.D.; Reavey-Cantwell, N.H. (1976) Comparative effect of phenobarbital and methaqualone on warfarin metabolism in the rat. Biochemical Pharmacology 25(4):379-382.

005001945 Prowse, C.V.; Esnouf, M.P. (1977) The isolation of a new warfarin-sensitive protein from bovine plasma. Biochemical Society Transactions 5(1):255-256.

005001946 Prowse, C.V.; Mattock, P.; Esnouf, M.P.; Russell, A.M. (1976) A variant of prothrombin induced in cattle by prolonged administration of warfarin. Biochimica et Biophysica Acta 434(1):265-279.

005005970 Prydz, H. (1973) Endret warfarintoleranse. [Changed warfarin tolerance.] [letter]. Tidsskrift for den Norske Laegeforening. [Journal of the Norwegian Medical Association.] 93(24):1718.

005002105 Przyborowski, T.; Hillar, M. (1970) Control of the susceptibility of rats (*Rattus norvegicus*) to anticoagulant rodenticides, in Gdynia--port and city. Bulletin of the Institute of Marine Medicine in Gdansk 21(3/4):225-228.

005002382 Pugh, D.M. (1968) The abortifacient action of warfarin in cattle. British Journal of Pharmaceutical Chemotherapy 33(1):210P.

005007876 Puhalak, L.; Ronko, A. (1966) Primena antikoagulantnih sredstava u deratizaciji. [The use of anticoagulant agents in rodent control.] Hrana i Ishrana. [Food and Nutrition.] VII(8/9):517-525.

000002396 [Purdue University] (1973?) [Effects of Warfarin on Mice]. (Unpublished study received Jul 16, 1973 under 2217-601; submitted by PBI Gordon Corp., Kansas City, Kans.; CDL:006796-B)

000002395 [Purdue University] (1973?) [Effects of Warfarin on Rats]. (Unpublished study received Jul 16, 1973 under 2217-601; submitted by PBI Gordon Corp., Kansas City, Kans.; CDL:006796-A)

000002429 Puskaisch, T. (1977) [Efficacy Data: Warfarin]. (Unpublished study including letter dated Jan 9, 1978 from M.G. Stack to William H. Miller, product analysis report and Co-Rax test, received Nov 22, 1977 under 655-539; prepared by Bell Laboratories, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:233342-A)

005001851 Pyorala, K. (1968) Sex difference in the clotting factor response to warfarin and in the rate of warfarin metabolism in the rat. Annales Medicinae Experimentalis et Biologiae Fenniae 46(1):23-34.

005002698 Pyorala, K. (1970) Genetic control of the response to coumarin anticoagulants in the rat. Humangenetik 9(3):265-268.

005001956 Pyorala, K.; Jussila, J.; Mustala, O.; Siurala, M. (1971) Absorption of warfarin from the stomach and small intestine. Scandinavian Journal of Gastroenterology. Suppl. 9 6:95-103.

005001850 Pyorala, K.; Nevanlinna, H.R. (1968) The effect of selective and non-selective inbreeding on the rate of warfarin metabolism in the rat. Annales Medicinae Experimentalis et Biologiae Fenniae 46(1):35-44.

005002522 Pyorala, K.; Ristola, P.; Myllyla, G. (1968) Warfarin metabolism during ethyl chlorophenoxyisobutyrate treatment. Annales Medicinae Internae Fenniae 75:157-160.

005007491 Qureshi, G.D.; Reinders, T.P.; Swint, J.J.; Brothers, M.D. (1979) Weight Watcher's diet and acquired warfarin resistance [abstract]. Virginia Medical Monthly 106(7):538-539.

005001810 Raivio, K.O.; Ikonen, E.; Saarikoski, S. (1977) Fetal risks due to warfarin therapy during pregnancy. Acta Paediatrica Scandinavica 66(6):735-739.

005013672 Raivio, K.O.; Ikonen, E.; Saarikoski, S. (1977) Fetal risks due to warfarin therapy during pregnancy. Acta Paediatrica Scandinavia 66:735-739.

000002415 Rakieten, N. (1974) Tests for Rodenticide Activity of Paxfarin, Biocerta Corporation, New York, N.Y., Done According to Multiple Dose Rodenticide Test on Norway Rats (*Rattus norwegicus*) and House Mice (*Mus musculus*): Accession No. 174282. (Unpublished study received Apr 2, 1974 under 537-18; prepared by South Shore Analytical and Research Laboratory, Inc., submitted by Biocerta Corp., New York, N.Y.; CDL:023085-A)

005006348 Ramaut, J.L.; Benoit, A. (1966) Identification des raticides derives de la coumarine par chromatographie sur couches minces. [Identification of raticides derived from coumarin by thin layer chromatography.] Journal de Pharmacie de Belgique 21(5/6):293-298.

005007510 Ramic, S.; Grujic-Vasic, J.; Trkovnik, M. (1967) Kromatografsko ispitivanje nekih derivata kumarina. [Chromatographic study of some coumarin derivatives.] Glasnik Hemicara i Tehnologa Bosne i Hercegovine. [Bulletin of the Chemists and Technologists of Bosnia and Herzegovina.] 15:105-108.

005001739 Rammer, L. (1968) Cortisone nephropathy in the rabbit: the effect of warfarin administration. Acta Pathologica et Microbiologica Scandinavica 74(4):514-518.

005002262 Ranhotra, G.S.; Johnson, B.C. (1969) Vitamin K and the synthesis of factors VII-X by isolated rat liver cells. Pages 509-513, *In* Proceedings--Society for Experimental Biology and Medicine. Vol 132. New York: Academic Press.

005011994 Rao, M.B.K. (1979) Potentiation of warfarin toxicity to roof rats (*Rattus rattus*) by L-histidine and by vitamin K adsorbers. Pesticide Science 10(3):221-226.

000002399 Rapotec, J.F. (1976) [General Pest Control Proposed Anticoagulant Mouse Dry Bait Test Method: Efficacy Data]. (Unpublished study including product analysis report and letter dated Feb 14, 1976 from J.F. Rapotec to John Gideon, received Mar 17, 1976 under 2496-4; prepared by South Side Veterinary Clinic, submitted by General Pest Control Co., Cleveland, Ohio; CDL:224418-B)

000002398 Rapotec, J.F. (1976) [General Pest Control Proposed Anticoagulant Rat Dry Bait: Efficacy Data]. (Unpublished study including product analysis report and letter dated Feb 14, 1976 from J.F. Rapotec to John Gideon, received Mar 17, 1976 under 2496-4; prepared by South Side Veterinary Clinic, submitted by General Pest Control Co., Cleveland, Ohio; CDL:224418-A)

005001741 Rasmussen, K.E.; Karlsen, J. (1974) Experiments in solid sampling gas chromatography. Journal of Chromatography 90(2):285-289.

000002388 Ravert, J.T. (1975) Evaluation of the Efficacy and Acceptance of Warfarin (Technical) with Corn Starch and Hearts of Corn Flour in Rats: Laboratory No. 5E-6064. (Unpublished study received Jun 17, 1975 under unknown admin. no.; prepared by Cannon Laboratories, Inc., submitted by AR Chemical Corp., Portsmouth, Ohio; CDL:119564-A)

005011913 Ravina, A. (1956) Un nouvel anticoagulant de synthese: la warfarine. [A new synthetic anticoagulant: warfarin.] Presse Medicale 64:433.

005006268 Raynor, G.; Baxter, W.H., inventors; (1963) Compose anti-corrosifs et analogues. [Anti-corrosive compounds and similar products.] Belgian brevet d'invention 627,090. Apr 30. 5 p.

005005636 Reber, K.; Studer, A. (1965) Beeinflussung der Wirkung einiger indirekter Antikoagulantien durch Monoaminoxydase-Hemmer. [Influence of monoamine oxidase inhibitors on the effect of some indirect anticoagulants.] Thrombosis et Diathesis Haemorrhagica 14(1/2):83-87.

005002069 Reddy, D.B. (1964) Time you did something about rats. Intensive Agriculture 1(11):13.

005014080 Redfern, R.; Gill, J.E. (1978) The development and use of a test to identify resistance to the anticoagulant difenacoum in the Norway rat (*Rattus norvegicus*). Journal of Hygiene 81(3):427-431.

005002593 Refsum, N.; Ekeli, H.; Wiik, I. (1978) Enantiomers of warfarin: differences in pharmacological characteristics and possible implications on clinical use. Meddelelser Fra Norsk Farmaceutisk Selskap. [Communications from the Norwegian Pharmacy Society.] 40(2):105-116.

005005026 Rehm, W.F. (1970) Beobachtungen waehrend einer Massenvergiftung durch Rattengift bei Schweinen. [Observations during a mass poisoning of swine by rat poison.] Deutsche Tieraerztliche Wochenschrift 77(21):567.

005001809 Rehnqvist, N. (1978) Intrahepatic jaundice due to warfarin therapy. Acta Medica Scandinavica 204(4):335-336.

005002426 Reihart, O.F.; Reihart, H.W. (1952) Accidental warfarin poisoning of young pigs: a hematological report. Veterinary Medicine 47:372-374.

005008469 Reinelt, H.; Temp, G., inventors; RTK Reinelt und Temp KG, assignee (1976) Stoff und Vorrichtung zur Vernichtung von schaedlichen Nagetieren und Schadlinsekten. [Material and apparatus for the destruction of harmful rodents and insect pests.] German (Fed. Rep.) offenlegungsschrift 24 35 355. Feb 5. 14 p. Int. Cl.$_2$ A 01N 17/10, A 01M 7/00.

005005021 Reisch, J. (1966) Die Darstellung von Antikoagulantien vom Typ des Warfarin durch Kondensation von Alkinolen mit 4-Hydroxycumarin. [Preparation of warfarin type anticoagulants by condensation of alkinols with 4-hydroxycoumarin.] Archiv der Pharmazie 299(9):806-808.

005002213 Ren, P. (1976) Effects of Coumarin and Indanedione Anticoagulants on Prothrombin Synthesis and Vitamin K-Epoxide Cycle in Normal and Warfarin Resistant Rats: Doctoral Dissertation. Kingston, R.I.: University of Rhode Island. (Available from: University Microfilms, Ann Arbor, MI, order no. 77-8299)

005001966 Ren, P.; Laliberte, R.E.; Bell, R.G. (1974) Effects of warfarin, phenylindanedione, tetrachloropyridinol, and chloro-vitamin K$_1$ on prothrombin synthesis and vitamin K metabolism in normal and warfarin-resistant rats. Molecular Pharmacology 10(3):373-380.

005002592 Ren, P.; Stark, P.Y.; Johnson, R.L.; Bell, R.G. (1977) Mechanism of action of anticoagulants: correlation between the inhibition of prothrombin synthesis and the regeneration of vitamin K$_1$ from vitamin K*1 epoxide. Journal of Pharmacology and Experimental Therapeutics 201(3):541-546.

005002214 Renapurkar, D.M.; Chaturvedi, J.C.; Bhat, V.M.; Sant, M.V. (1973) MR 100: an anticoagulant rodenticide. Indian Journal of Experimental Biology 11(1):27-29.

005002119 Renapurkar, D.M.; Menon, T.U.K.; Bhat, V.M.; Sant, M.V. (1973) Tolerance in*Bandicota bengalensis to warfarin. Pesticides 7(9):23,27.

005001970 Renick, A.M., Jr. (1976) Anticoagulant-induced necrosis of skin and subcutaneous tissues: report of two cases and review of the English literature. Southern Medical Journal 69(6):775-778.

005002217 Rennison, B.D. (1974) Field trials of calciferol against warfarin resistant infestations of the Norway rat (*Rattus norvegicus* Berk.). Journal of Hygiene 73(3):361-367.

005005765 Repin, V.M.; Trakhanov, D.F. (1975) Sredstva i metody deratizatsii v ob'ektakh zhivotnovodstva. [Means and methods of rodent control on livestock farms.] Veterinariya (Moscow). [Veterinary Science.] (1):24-26.

005004900 Revach, M.; Kabili, S.; Zemer, D.; Seligsohn, U. (1970) [Massive sublingual hemorrhage due to coumadin causing suffocation.] Harefuah. [Medicine.] 78(12):597-598.

005007877 Reynolds, A.L., ed. (1967) Interbureau By-Lines (Food and Drug Administration) 4(1):1-58.

005001963 Rez, G.; Prydz, H. (1971) The mode of action of warfarin. An intracellular precursor for Factor VII in rat liver. Biochimica et Biophysica Acta 244(2):495-499.

000002406 Richards, C.A. (1952) Warfarin Water Baits in Lake County, Indiana, 1949-50. (Unpublished study received Apr 1, 1952 under 3282-6; prepared by Wisconsin Alumni Research Foundation, submitted by d-Con Co., Inc., New York, N.Y.; CDL:008783-A)

005005670 Richardson, J.H.; Ando, M.E. (1977) Sub-part-per-trillion detection of polycyclic aromatic hydrocarbons by laser induced molecular fluorescence. Analytical Chemistry 49(7):955-959.

005002699 Richens, A. (1975) Drug interactions and lethal drug combinations. Journal of Clinical Pathology, Supplement 28(9):94-98.

005001964 Richman, E.M.; Lahman, J.E. (1976) Fetal anomalies associated with warfarin therapy initiated shortly prior to conception [letter] Journal of Pediatrics 88(3):509-510.

005001815 Rickles, F.R.; Griner, P.F. (1972) Chloral hydrate and warfarin [letter] New England Journal of Medicine 286(11):611-612.

005010044 Rico, A. (1962) Les anticoagulants. [Anticoagulants.] Recueil de Medecine Veterinaire CXXXVIII(8):641-655.

005004578 Ritschel, W.A.; Lee, L.H. (1977) Enzyme induction by coumarins. Drug Development and Industrial Pharmacy 3(5):401-416.

000002314 RMC Products Company (19??) RMC Improved Rodenticide (Tid-Bit Form): (Rats): [Warfarin]. (Unpublished study received Feb 23, 1972 under 7276-9; CDL:008027-B)

000002308 RMC Products Company (19??) RMC Improved Rodenticide in Throw Pac Bag (Tid-Bit Form): (Rats): [Warfarin]. (Unpublished study received Feb 23, 1972 under 7276-9; CDL:008027-A)

000002313 RMC Products Company (1971) RMC Improved Rodenticide in Throw Pac Bag: (Tid-Bit Form): (Mice). (Unpublished study received Feb 23, 1972 under 7276-1; CDL:026495-C)

000002312 RMC Products Company (1971) RMC Rodent Bait in Throw Pac Bag: [Rats]. (Unpublished study received Feb 23, 1972 under 7276-1; CDL:026495-B)

000002307 RMC Products Company (1971) RMC Rodent Bait in Throw Pac Bag: (Mice). (Unpublished study received Feb 23, 1972 under 7276-1; CDL:026495-A)

000002296 Robaidek, E. (1963) Plasma Prothrombin Times of Animals Fed Warfarin and/or Sulfa Q. (Unpublished study received Jan 12, 1963 under unknown admin. no.; submitted by Wisconsin Alumni Research Foundation, Madison, Wis.; CDL:104817-A)

000002423 Robaidek, E.S. (1971) Report: [Efficacy Data: Warfarin]: WARF No. 1050247. (Unpublished study received Sep 9, 1974 under 655-246; prepared by WARF Institute, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:009819-A)

005008281 Robbins, P.W., comp. (1971) Student Projects on the Oxidation by Marine Bacteria of Aromatic Compounds Found in Oil. Cambridge, Mass Massachusetts Institute of Technology. (Office of Sea Grant report no. NOAA-71080208; available from: NTIS, Springfield, VA; COM-71-00878)

005002424 Roberts, S.D.; Pantridge, J.F. (1963) Effect of Atromid on requirements of warfarin. Journal of Atherosclerosis Research 3(576):655-657.

005005300 Robertson, A.O. (1953) Studies on 4-Hydroxycoumarins. I. Warfarin, Its Contaminants and Decomposition Products. II. The Mannich Reaction with 4-Hydroxycoumarins. III. Annotated Literature Survey on the Chemistry of the 4-Hydroxycoumarins, 1916-1953: Doctoral Dissertation. Madison, Wis.: University of Wisconsin.

005002700 Robertson, D.N. (1953) Studies on 4-Hydroxycoumarins. I. The Mannich Reaction with 4-Hydroxycoumarins. Part 1. Synthesis of 6-Substituted-4-Hydroxycoumarins. Part 2. Mannich Bases of4-Hydroxycoumarin. Part 3. Mannich Bases of 6-Substituted-4-Hydroxycoumarins. II. Condensation of Some Alpha, Beta-Unsaturated Ketones with 4-Hydroxycoumarin. III. Reaction of Ethyl Orthoformate with 4-Hydroxycoumarin. IV. Beckmann Rearrangement of the Oxime of Warfarin: Doctoral Dissertation. Madison, Wis.: University of Wisconsin.

005002218 Robinson, D.S. (1975) The application of basic principles of drug interaction to clinical practice. Journal of Urology 113(1):100-107.

005001971 Robinson, D.S.; Amidon, E.L. (1973) Interaction of benzodiazepines with warfarin in man. Pages 641-646, In The Benzodiazepines. New York: Raven Press.

005001968 Robinson, D.S.; Sylwester, D. (1969) Effects of secobarbital, amobarbital chlorothiazide, and chlordiazepoxide on plasma half-life and anticoagulant action of warfarin in man. Pharmacologist 11(2):272.

005001965 Robinson, M.J.; Pash, J.; Grimwade, J.; Campbell, J. (1978) Fetal warfarin syndrome [letter] Medical Journal of Australia 1(3):157.

000002416 Rocky Mountain College, Department of Biology (1971) ID 1004 Colonial-42 Prolin "6N": [Toxicity Data]. (Unpublished study received Aug 8, 1975 under 3314-24; submitted by Colonial Products, Inc., Lake Worth, Fla.; CDL:220014-A)

005002773 Rohwer, S.A. (1950) Warfarin, a Coined Name for the Anticoagulant Rodenticidal Chemical 3-(Alpha-Acetonylbenzyl)-4-Hydroxycoumarin. Washington, D.C.: Bureau of Entomology and Plant Quarantine. (Interdepartmental Committee on Pest Control publication; with attachment: Information on 3-(Alpha-Phenyl-Beta-Acetylethyl)-4-Hydroxycoumarin, by K.P. Link)

005012010 Roka, L. (1955) Einfluss von Cumarinderivaten auf die Prothrombinbildung in vitro. [Effects of coumarin derivatives on the in vitro prothrombin formation.] Pages 269-271, In Proceedings of the 1st International Conference on Thrombosis and Embolism; Jul 20-24, 1954, Basel, Switzerland. Edited by T. Koller and W.R. Merz. Basel, Switzerland: Benno Schwabe and Co.

005001969 Romankiewicz, J.A. (1976) Effects of antacids on gastrointestinal absorption of drugs. Primary Care 3(3):537-550.

005013946 Romankiewicz, J.A.; Ehrman, M. (1975) Rifampin and warfarin: a drug interaction. Annals of Internal Medicine 82(2):224-225.

005002591 Romanucci, D.; Jakovic, L.G.; Smedberg, K. (1974) Anticoagulants and hemorrhage—breast necrosis: a case report. Angiology 25(9):612-616.

005001811 Rook, A. (1965) Some chemical influences on hair growth and pigmentation. British Journal of Dermatology 77(3):115-129.

005008465 Roseau, E. (1965) Accidents occlusifs des traitements anti-coagulants prolonges. [Occlusive complications of prolonged anticoagulant treatments.] Journal de Chirurgie 90(1/2):75-85.

005013664 Roseboom, H.; Hulshoff, A. (1979) Rapid and simple clean-up and derivatization procedure for the gas chromatographic determination of acidic drugs in plasma. Journal of Chromatography 173(1):65-74.

000002288 Rossignol, B. (1975) Encapsulated Warfarin: Test No. 12516. (Unpublished study received Aug 1, 1975 under 8590-475; submitted by Agway, Inc., Syracuse, N.Y.; CDL:226959-A)

005002215 Rothstein, E. (1968) Warfarin effect enhanced by disulfiram [letter]. Journal of the American Medical Association 206(7):1574-1575.

005001812 Rothstein, E. (1972) Warfarin effect enhanced by disulfiram (antabuse) [letter] Journal of the American Medical Association 221(9):1052-1053.

005019581 Routledge, P.A.; Bjornsson, T.D.; Kitchell, B.B.; Shand, D.G. (1979) Heparin administration increases plasma warfarin binding in man [letter]. British Journal of Clinical Pharmacology 8(3):281-282.

005008224 Routledge, P.A.; Chapman, P.H.; Davies, D.M.; Rawlins, M.D. (1979) Factors affecting warfarin requirements: a prospective population study. European Journal of Clinical Pharmacology 15(5):319-322.

005003633 Routledge, P.A.; Davies, D.M.; Rawlins, M.D.; Morrison, G.W. (1979) Predicting warfarin requirements and reply [letters]. Lancet 1(8115):552-553.

005002109 Rowe, F.P. (1973) Aspects of mouse behaviour related to control. Mammal Review 3(2):58-63.

005001967 Rowe, F.P.; Chudley, A.H.J. (1961) Control of the house-mouse (*Mus musculus* L.) with whole wheat soaked in a solution of the sodium salt of warfarin. Parasitica 17(4):165-169.

005001813 Rowe, F.P.; Chudley, A.H.J. (1963) Combined use of rodenticidal dust and poison solution against house-mice (*Mus musculus* L.) infesting a food store. Journal of Hygiene 61(2):169-174.

005006266 Rowe, F.P.; Redfern, R. (1964) The toxicity of 0.025% warfarin to wild house-mice (*Mus musculus* L.). Journal of Hygiene 62(3):389-393.

005002432 Rowe, F.P.; Redfern, R. (1964) The toxicity of 0.025% warfarin to wild house-mice (*Mus musculus* L.). Journal of Hygiene 62:389-393.

005002030 Rowe, F.P.; Redfern, R. (1965) Toxicity tests on suspected warfarin resistant house mice (*Mus musculus* L.). Journal of Hygiene 63(3):417-425.

005001814 Rowe, F.P.; Redfern, R. (1967) The effect of sex and age on the response to warfarin in a non-inbred strain of mice. Journal of Hygiene 65(1):55-60.

005003287 Rowe, F.P.; Redfern, R. (1968) Comparative toxicity of the two anti-coagulants, coumatetralyl and warfarin, to wild house-mice (*Mus musculus* L.). Annals of Applied Biology 62(3):355-361.

005001916 Rowe, F.P.; Redfern, R. (1968) Laboratory studies on the toxicity of anti-coagulant rodenticides to wild house-mice (*Mus musculus* L.). Annals of Applied Biology 61(2):322-326.

005002216 Rowe, F.P.; Redfern, R. (1968) The effect of warfarin on plasma clotting time in wild house mice (*Mus musculus* L.). Journal of Hygiene 66(1):159-174.

005002031 Rowe, F.P.; Smith, F.J.; Swinney, T. (1974) Field trials of calciferol combined with warfarin against wild house-mice (*Mus musculus* L.). Journal of Hygiene 73(3):353-360.

005001915 Rowe, F.P.; Taylor, E.J.; Chudley, A.H.J. (1961) The poison baiting of corn-ricks with particular reference to the control of house-mice. Annals of Applied Biology 49:571-577.

005002220 Rowe, H.; Carmichael, R.; Lemberger, L. (1978) The effect of fluoxetine on warfarin metabolism in the rat and man. Life Sciences 23(8):807-811.

005006267 Rowland, M.; Matin, S.B. (1973) Kinetics of drug-drug interactions. Journal of Pharmacokinetics and Biopharmaceutics 1(6):553-567.

005002222 Royston, G.R. (1966) The management of adequate anticoagulant therapy and its complications. Vascular Diseases 3(5):295-304.

005002212 Rubenberg, M.L.; Regoeczi, E.; Bull, B.S.; Dacie, J.V.; Brain, M.C. (1968) Microangiopathic haemolytic anaemia: the experimental production of haemolysis and red-cell fragmentation by defibrination in vivo. British Journal of Haematology 14(6):627-642.

005008926 Ruedy, J.; Davies, R.O.; Gagnon, M.A.; McLean, W.M.; Thompson, W.G.; Vitti, T.G.; Wilson, T.W. (1976) Drug bioavailability [letter]. Canadian Medical Association Journal 115(2):105.

005002924 Ruessel, H.A. (1970) Duennschicht-chromatographischer Nachweis von rodenticiden Cumarinund Indandionverbindungen aus organischen Materialien. [Thin-layer chromatography of rodenticidic cumarines and indandiones in organic materials.] Zeitschrift fuer Analytische Chemie 250(2):125-126.

005002211 Ryan, J.J.; Ketcham, A.S.; Wexler, H. (1968) Reduced incidence of spontaneous metastases with long-term Coumadin therapy. Annals of Surgery 168(1):163-168.

005002221 Ryan, J.J.; Ketcham, A.S.; Wexler, H. (1968) Warfarin treatment of mice bearing autochthonous tumors: effect on spontaneous metastases. Science 162(3861):1493-1494.

005002249 Ryan, J.J.; Ketcham, A.S.; Wexler, H. (1969) Warfarin therapy as an adjunct to the surgical treatment of malignant tumors in mice. Cancer Research 29:2191-2194.

005001740 Ryan, J.J.; Ketcham, A.S.; Wexler, H. (1969) Warfarin therapy as an adjunct to the surgical treatment of malignant tumors in mice. Cancer Research 29(12):2191-2194.

005002219 Ryan, J.J.; Orme, S.K.; Kirby, W.; Wexler, H.; Ketcham, A.S. (1969) Successful long-term coumadin anticoagulation of mice with prothrombin time monitoring. Journal of Surgical Oncology 1(2):115-121.

000003282 Rydman, R. (1975) Rodenticide Bioassay Report: [Mice]. (Unpublished study received Apr 27, 1976 under 7455-12; prepared by McConnon and Co. for Mackwin Co., Agricultural Chemicals, submitted by Agricultural Products Div., Minneapolis, Minn.; CDL:224090-A)

000002835 Rydman, R. (1975) Rodenticide Bioassay Report: [Rats]. (Unpublished study received Mar 26, 1976 under 7455-12; prepared by McConnon and Co. for Mackwin Co., Agricultural Chemicals, submitted by Agricultural Products Div., Minneapolis, Minn.; CDL: 222147-A)

000002451 S.B. Penick & Company (19??) Biological Data: [Warfcoat 1/1]. (Unpublished study received Jun 5, 1974 under 432-535; CDL: 022992-B)

000002450 S.B. Penick & Company (19??) Physical Properties of Warfcoat 1/1 Encapsulated Warfarin. (Unpublished study received Jun 5, 1974 under 432-535; CDL:022992-A)

000002452 S.B. Penick & Company (19??) Prolin (R) Assay: Determination of Warfarin and Sulfaquinoxaline in Concentrates and Finished Baits. Undated method. (Unpublished study received Aug 13, 1974 under 432-538; CDL:009825-B)

000002454 S.B. Penick & Company (19??) The Anti-K Factor in Anticoagulant Baits. (Unpublished study received 1967 under 432-79; prepared in cooperation with Wisconsin Alumni Research Foundation and Kansas State Univ.; CDL:008373-A)

000002405 S.B. Penick & Company (1950) [Efficacy Data (Warfarin)--Rats and Mice]. (Unpublished study received Apr 3, 1952 under 3282-6; submitted by d-Con Co., Inc., New York, N.Y.; CDL:008782-A)

000002457 S.B. Penick & Company (1970?) Analytical Chemical Procedure: [Coated Dethmor (R)]. (Unpublished study received Jun 5, 1974 under 432-535; CDL:022992-D)

000002854 S.B. Penick & Company (1974) Formulation Guide: Coated Dethmor (R): Technical Bulletin: TB-7401. (Unpublished study received Jun 5, 1974 under 432-535; CDL:022992-C)

000003295 S.B. Penick & Company (1974) Formulation Guide: Coated Prolin (R): Technical Bulletin: TB-7404. (Unpublished study received Aug 13, 1974 under 432-538; CDL:009825-D)

005013561 Saakov, G.T. (1971) Opyt deratisatsii na korablyakh. [Experimental rat extermination on ships.] Voenno-Meditsinskii Zhurnal. [Journal of Military Medicine.] (3):67-68.

005001776 Sadowski, J.A.; Suttie, J.W. (1974) Mechanism of action of coumarins. Significance of vitamin K epoxide. Biochemistry 13(18):3696-3699.

005010048 Sakuragawa, N. (1976) [Designated proposal: prothrombin molecular abnormalities.] Rinsho Byori. [Japanese Journal of Clinical Pathology.] XXIV(4):279-280.

000005974 Samol, H.H. (1972) Rat damage and control in the Florida sugarcane industry. Pages 503-506, In Proceedings of 14th Congress, ISSCT; 1972, N.P. (also In unpublished submission received Oct 6, 1976 under 12455-16; submitted by Bell Laboratories, Madison, Wis.; CDL:226476-J)

005002494 Sanchez Deza, P. (1965) Algunos aspectos del combate de ruedores daninos aplicables a nuestras zonas agricolas de selva, Lima [Some aspects of the battle against rodents relevant to our agricultural areas in the wooded regions, Lima] Comite Cafetero del Peru. [Chemical Control of Rats.] :1-12.

005001862 Saunders, G.R. (1978) Resistance to warfarin in the roof rat in Sydney, NSW. Search 9(1/2):39-40.

005001859 Saunders, J.P.; Heisey, S.R.; Goldstone, A.D.; Bay, E.C. (1955) Comparative toxicities of warfarin and some 2-acyl-1,3-indandiones in rats. Journal of Agricultural and Food Chemistry 3(9):762-765.

005005698 Sauvageau, R. (1970) Intoxication au warfarin. [Warfarin poisoning.] Canadian Veterinary Journal 11(3):65-66.

005003282 Savage, E.P.; Bagby, J.R., Jr.; Mounce, L.; Williams, L.P., Jr.; Cholas, P.H.; Cholas, G. (1971) Pesticide poisonings in rural Colorado. Rocky Mountain Medical Journal 63(4):29-33.

005001778 Saword, A.C. (1970) Rodent and bird pests: the duties and experience of a local authority. Journal, Royal Society of Health 90(3):134-137,169.

005004393 Sawyer, W.T. (1979) Predictability of warfarin dose requirements: theoretical considerations. Journal of Pharmaceutical Sciences 68(4):432-434.

005001925 Schaar, J.L., inventor; Richardson-Merrell, assignee (1966) Rodenticidal bait compositions. U.S. patent 3,258,396. Jun 28. 3 p. Cl. 167-48.

005019953 Schaer, M.; Henderson, C. (1980) Suspected warfarin toxicosis in a dog. Journal of the American Veterinary Medical Association 176(6):535-536.

005006346 Schaller, H.L. (1951) Proteja sus cosechas de los ratones: he aqui la ultima palabra en "Warfarina". [Protect your crops from the mice: here is the last word on "warfarin".] Revista del Cafe 7:20-21.

005005979 Schardt, F. (1976) Wechselwirkungen von Arzneimitteln. [Drug interactions.] Therapiewoche 26(45):7436,7439-7440,7442,7445,7446.

005001861 Schary, W.L.; Lewis, R.J.; Rowland, M. (1975) Warfarin-phenylbutazone interaction in man: a long term multiple dose study. Research Communications in Chemical Pathology and Pharmacology 10(4):663-672.

005013545 Scheer, E. (1964) Iatrogenic disease in the newborn. Journal of the Medical Society of New Jersey 61(3):93-95.

005001860 Schein, M.W. (1950) Field test of efficiency of the rodenticide compound W.A.R.F. 42. Public Health Reports 65:368-372.

005005697 Schenone, H.; Carrasco, J.; Villarroel, F.; Chinchon, R.; Urriola, J. (1967) Epizootias de triquinosis porcina y su asociacion con desratizaciones con Warfarin. [Epizootics of trichinosis in swine and its relationship to the use of warfarin rodenticide.] Boletin Chileno de Parasitologia 22(4):138-143.

000002387 Schering AG (1972) Warfarin Techn.: Specification No. 180: Schering Information. Includes methods dated Apr 6, 1972. (Unpublished study received Apr 26, 1972 under 6900-130; submitted by J.J. Dill Co., Kalamazoo, Mich.; CDL:102157-A)

005001854 Schiff, B.L.; Kern, A.B. (1968) Cutaneous reactions to anticoagulants. Archives of Dermatology 98(2):136-137.

005001704 Schisla, R.M.; Hinchen, J.D.; Hammann, W.C. (1970) New rodenticide, "MR-100", containing a taste enhancer. Nature 228(277):1229-1230.

005005014 Schlegelmilch, R.; Hornawsky, G. (1968) Toxikologisch-chemische Nachweismethode fuer Warfarin in Material tierischer Herkunft und Futtermitteln. [Toxicological-chemical method of detecting warfarin in material of animal origin and in feeding stuffs.] Archiv fuer Experimentelle Veterinaermedizin 22(1):215-217.

005019095 Schooley, D.A.; Quistad, G.B. (1979) High-pressure, high-resolution liquid chromatography and its application to pesticide analysis and biochemistry. Pages 1-113, In Progress in Drug Metabolism. Vol. 3. Edited by J.W. Bridges and L.F. Chasseaud. New York: John Wiley and Sons.

005002420 Schroeder, C.; Preis, S.; Link, K.P. (1960) The mechanism of warfarin formation from 4-hydroxycoumarin and beta-anilinobenzylacetone. Evidence for Schiff base intermediates showing enhanced reactivity in the Michael reaction. Tetrahedron Letters (13):23-29.

005010493 Schroeder, C.H.; Eble, J.N. (1964) Warfarin. Pages 197-205, In Analytical Methods for Pesticides, Plant Growth Regulators, and Food Additives. Vol. 3. Edited by G. Zweig. New York: Academic Press.

000002290 Schroeder, C.H.; Eble, J.N. (1967) Analytical methods for Warfarin formulations: Part II. Rev. Pages 4-13, In Analytical Methods for Pesticides, Plant Growth Regulators, and Food Additives. Madison: Wisconsin Alumni Research Foundation. (Also In unpublished submission received Feb 23, 1977 under 8590-475; submitted by Agway, Inc., Syracuse, N.Y.; CDL:228616-C)

005002622 Schroeder, C.H.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1956) Process of making crystalline warfarin sodium. U.S. patent 2,765,321. Oct 2. 2 p. Cl. 260-343.2.

005001926 Schroeder, C.H.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1965) Warfarin alkali metal derivative process. U.S. patent 3,192,232. Jun 29. 2 p. Cl. 260-343.2.

005002585 Schroeder, C.H.; Sherma, J. (1973) Warfarin. Pages 677-688, In Analytical Methods for Pesticides and Plant Growth Regulators. Vol. 7. New York: Academic Press.

005004332 Schwandt, P. (1977) Absorbable and unabsorbable hypolipidemic drugs. Pages 335-345, In Proceedings of the 14th International Symposium on Clinical Pharmacology; 1976. Problems of Clinical Pharmacology: Phase I. Edited by H.P. Kuemmerle, T.K. Shibuya and E. Kimura. Munich, Germany: Urban and Schwartzenberg. (Advances in clinical pharmacology, vol. 13)

005014081 Scott, E.A.; Sandler, G.A.; Byars, T.D. (1978) Warfarin: effects of intravenous loading doses and vitamin K on warfarin anticoagulation in the pony. American Journal of Veterinary Research 39(12):1888-1891.

005003623 Scott, E.A.; Sandler, G.A.; Byars, T.D. (1979) Warfarin: effects on anticoagulant, hematologic, and blood enzyme values in normal ponies. American Journal of Veterinary Research 40(1):142-146.

005001858 Searcey, M.T.; Graves, C.B. (1976) Subcellular distribution of warfarin-binding protein from Sprague-Dawley and warfarin-resistant rats. Federation Proceedings 35(7):1763.

005001857 Searcey, M.T.; Olson, R.E. (1974) Detection of a warfarin-binding protein in ribosomes from Sprague-Dawley and warfarin-resistant rats. Federation Proceedings 33(5):1584.

005005977 Sebille, B.; Thuaud, N.; Tillement, J.P. (1977) Etude de l'interaction de macromolecules biologiques et d'un coordinat par chromatographie liquide a haute performance. [Study of the interaction of biological macromolecules and ligands by high performance liquid chromatography.] Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences, Serie C 285(16):535-538.

005005978 Sebille, B.; Thuaud, N.; Tillement, J.P. (1978) Mesure des parametres de l'association d'une macromolecule biologique et d'un coordinat par chromatographie liquide a haute performance: methode d'analyse par defaut. [Measurement of the association parameters of a biological macromolecule and a coordinate by high performance liquid chromatography: defect analysis method.] Comptes Rendus Hebdomadaires des Seances de l'Academie des Sciences, Serie C 286(15):425-428.

005001924 Seidman, M.; Link, K.P. (1952) Studies on 4-hydroxycoumarins. XI. Cyclic ketals of 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin. Journal of the American Chemical Society 74:1885-1886.

005001928 Seidman, M.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1953) Chemical compounds and processes of preparing the same. U.S. patent 2,642,441. Jun 16. 2 p. Cl. 260-343.2.

005001927 Seidman, M.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1954) Chemical compounds and processes of preparing the same. U.S. patent 2,665,281. Jan 5. 2 p. Cl. 260-343.2.

005002378 Seidman, M.; Robertson, D.N.; Link, K.P. (1950) Studies on 4-hydroxycoumarins. X. Acylation of 3-(alpha-phenyl-beta-acetylethyl)-4-hydroxycoumarin. Journal of the American Chemical Society 72:5193-5195.

005002586 Self, T.H.; Mann, R.B. (1975) Interaction of rifampin and warfarin. Chest 67(4):490-491.

005001856 Self, T.H.; Soloway, M.S.; Vaughn, D. (1978) Possible interaction of indomethacin and warfarin. Drug Intelligence and Clinical Pharmacy 12(10):580-581.

005001777 Seller, E.M.; Lang-Sellers, M.L.; Koch-Weser, J. (1977) Comparative warfarin binding to albumin from various species. Biochemical Pharmacology 26(24):2445-2447.

005002193 Sellers, E.M. (1977) Clinical pharmacology of anticoagulants. Comprehensive Therapy 3(1):60-66.

005008227 Sellers, E.M. (1979) Adverse drug reactions: uncommon or unrecognized. Canadian Medical Association Journal 120(10):1200-1201.

005001855 Sellers, E.M.; Koch-Weser, J. (1970) Displacement of warfarin from human albumin by diazoxide and ethacrynic, mefenamic, and nalidixic acids. Clinical Pharmacology and Therapeutics 11(4):524-529.

005002009 Sellers, E.M.; Lang, M.; Koch-Weser, J.; Colman, R.W. (1972) Enhancement of warfarin-induced hypoprothrombinemia by triclofos. Clinical Pharmacology and Therapeutics 13(6):911-915.

005005298 Selye, H.; Mecs, I. (1974) Effect upon drug toxicity of surgical interference with hepatic or renal function--part I. Acta Hepato-Gastroenterologica 21(3):191-202.

005001703 Semchyshyn, S.; Zuspan, F.P. (1978) Ovarian hemorrhage due to anticoagulants. American Journal of Obstetrics and Gynecology 131(8):837-844.

005019172 Serlin, M.J.; Sibeon, R.G.; Mossman, S.; Breckenridge, A.M.; Williams, J.R.B.; Atwood, J.L.; Willoughby, J.M.T. (1979) Cimetidine: interaction with oral anticoagulants in man. Lancet 2(8138):317-319.

005008489 Servintuna, C. (1963) Insektisitlerin agiz ve deri yolu ile akut toksisiteleri arasindaki munasebetler ve tatbikattaki onemi. [Relationship between the acute oral and dermal toxicities of insecticides and their practical value.] Bitki Koruma Bulteni. [Plant Protection Bulletin.] 3(4):275-284.

005011218 Seyfarth, D. (1976) Ein Beitrag zur Rattenbekaempfung und zur Warfarinvergiftung des Schweines. [Rat control and warfarin intoxication of swine.] Monatshefte fuer Veterinaermedizin 31(12):454-457.

005001805 Shaeffer, J.R. (1964) Lack of enhanced lysis of fibrinogen-I 131 by anticoagulants in tumor-bearing rats. American Journal of Physiology 206(6):1251-1254.

005002587 Shah, R.S.; Bafna, S.L. (1963) Ultraviolet absorption spectra of coumarins. Indian Journal of Chemistry 1(9):400-401.

005002772 Shane, J.M. (1968) Congenital anomalies secondary to maternal drug ingestion. Oklahoma State Medical Association Journal 61(11):529-532.

005011373 Shapero, M., inventor; Ward Blenkinsop and Co., assignee (1964) Rodenticidal compositions. British patent specification 962,736. Jul 1. 3 p. Int. Cl. A 01n.

000002443 Shapiro, R. (1976) [Dermal LD$_{50}$ on Warfarin Technical]: Report No. T-120. (Unpublished study received Nov 24, 1975 under 655-539 prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231460-J)

000003289 Shapiro, R. (1976) [Eye Irritation on Co-Rax Pelleted Bait]: Report No. T-107. (Unpublished study received May 25, 1976 under 655-539; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231460-M)

000002852 Shapiro, R. (1976) [Eye Irritation on Prentox Rax Water Soluble Warfarin]: Report No. T-116. (Unpublished study received May 25, 1976 under 655-543; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-D)

000003288 Shapiro, R. (1976) [Eye Irritation on Warfarin Technical]: Report No. T-108. (Unpublished study received May 25, 1976 under 655-539; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231460-K)

000003290 Shapiro, R. (1976) [Primary Skin Irritation on Co-Rax Pelleted Bait]: Report No. T-110. (Unpublished study received May 25, 1976 under 655-539; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231460-N)

000003287 Shapiro, R. (1976) [Primary Skin Irritation on Prentox Rax Water Soluble Warfarin]: Report No. T-109. (Unpublished study received May 25, 1976 under 655-543; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-E)

000002851 Shapiro, R. (1976) [Primary Skin Irritation on Warfarin Technical]: Report No. T-113. (Unpublished study received May 25, 1976 under 655-543; prepared by Nutrition International, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL: 231461-C)

000002287 Shapiro, R. (1976) Estimated LD_{50}: [Warfarin]: Report No. T-120. (Unpublished study received Nov 22, 1976 under 8590-475; prepared by Nutrition International, Inc. for Prentiss Drug and Chemical Corp., Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL:226960-E)

000002280 Shapiro, R. (1977) Acute Dermal Toxicity: [Warfarin]: Report No. T-185. (Unpublished study received Aug 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL: 231393-A)

000002282 Shapiro, R. (1977) Defined Oral LD_{50}: [Warfarin]: Report No. T-203. (Unpublished study received Aug 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL: 231393-C)

000002430 Shapiro, R. (1977) Eye Irritation: [Warfarin]: Report No. T-168. (Unpublished study received May 13, 1977 under 655-543; prepared by Product Safety Labs, Div. of Nutrition International, Inc. for Prentiss Drug & Chemical Corp., Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL:230861-A)

000002284 Shapiro, R. (1977) Modified Draize Eye Irritation: [Warfarin]: Report No. T-178. (Unpublished study received Aug 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL:231393-E)

000002281 Shapiro, R. (1977) Oral LD_{50} Screen: [Warfarin]: Report No. T-179. (Unpublished study received Aug 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL: 231393-B)

000002283 Shapiro, R. (1977) Primary Skin Irritation: [Warfarin]: Report No. T-200. (Unpublished study received Aug 23, 1977 under 8590-475; prepared by Product Safety Labs, Div. of Nutrition International, Inc., submitted by Agway, Inc., Syracuse, N.Y.; CDL: 231393-D)

005002389 Shapiro, S.S.; McKay, D.G. (1958) The prevention of the generalized Shwartzman reaction with sodium warfarin. Journal of Experimental Medicine 107:377-381.

005001853 Shaul, W.L.; Emery, H.; Hall, J.G. (1975) Chondrodysplasia punctata and maternal warfarin use during pregnancy. American Journal of Diseases of Children 129(3):360-362.

005001775 Shaul, W.L.; Hall, J.G. (1977) Multiple congenital anomalies associated with oral anticoagulants. American Journal of Obstetrics and Gynecology 127(2):191-198.

005010039 Shavladze, N.S.; Vashakidze, V.I. (1967) Parametry toksichnosti zookumarina pri vozdeistvii na organizm mlekopitaiushchikh. [Parameters of zoocoumarin toxicity when the mammalian body is exposed.] Sbornik Trudov, Nauchno-Issledovatel'skii Institut Gigieny Truda i Profzabolevanii. Gruz SSR. [Collection of Works, Scientific Research Institute of Labor Hygiene and Occupational Diseases.] 11:141-147.

005007629 Shearer, M.J.; Barkhan, P. (1979) Vitamin K_1 and therapy of massive warfarin overdose [letter]. Lancet 1(8110):266-267.

005002096 Shearer, M.J.; McBurney, A.; Barkhan, P. (1974) Studies on the absorption and metabolism of phylloquinone (vitamin K_1) in man. Pages 513-542,*In Vitamins and Hormones: Advances in Research and Applications. Vol. 32. Edited by Robert S. Harris, et al. New York: Academic Press.

005002590 Shearer, M.J.; McBurney, A.; Breckenridge, A.; Barkhan, P. (1976) Dose-response relationship between warfarin and the metabolism of phylloquinone (vitamin K_1) in man. International Journal for Vitamin and Nutrition Research 46(2):215-219.

005001940 Shepherd, A.M.M.; Hewick, D.S.; Moreland, T.A.; Stevenson, I.H. (1977) Age as a determinant of sensitivity to warfarin. British Journal of Clinical Pharmacology 4(3):315-320.

005002097 Sherman, S.; Hall, B.D. (1976) Warfarin and fetal abnormality [letter]. Lancet 1:692.

005014082 Sherrod, P.S.; Harrod, M.J.E. (1978) Warfarin embryopathy in siblings [abstract]. American Journal of Human Genetics 30(6):104.

005009403 Shibuya, T.; Nozaki, M.; Tsurumi, K.; Fujimura, H. (1976) Koembyoyaku to hoka no yakubutsu to no sogosayo (dai yompo): Warfarin-kessei arubumin ketsugo ni taisuru eikyo. [Interaction of anti-inflammatory drugs with other drugs (4): effects of anti-inflammatory drugs on binding of warfarin to human-serum albumin.] [abstract no. 23]. Nippon Yakurigaku Zasshi. [Folia Pharmacologica Japonica.] 72(4):56.

005001720 Shimamoto, T.; Ishioka, T.; Fujita, T. (1962) Antithrombotic effect of monamine oxidase inhibitor (nialamide): comparison with prothrombinopenic anticoagulants. Circulation Research X(4):647-657.

005015413 Shnider, M.; D'Souza, C.R. (1976) Cutaneous gangrene: a rare complication of coumarin therapy. Canadian Journal of Surgery 19(1):64-65,68.

005002098 Siddiqui, S.M.; Fry, J.L. (1963) Studies with warfarin on the incidence of blood spots and in relation to prothrombin time, egg quality and mortality in laying hens. Poultry Science 42(5):1125-1130.

005002199 Siegfried, C.M.; Matschiner, J.T. (1976) The effect of cycloheximide on preprothrombin activity in warfarin-treated male and female rats. Federation Proceedings 35(7):1561.

005001721 Siek, T.J.; Osiewicz, R.J.; Bath, R.J. (1976) Identification of drugs and other toxic compounds from their ultraviolet spectra. Part III: ultraviolet absorption properties of 22 structural groups. Journal of Forensic Sciences 21(3):525-551.

005003620 Silver, B.A.; Bell, W.R. (1979) Cimetidine potentiation of the hypoprothrombinemic effect of warfarin. Annals of Internal Medicine 90(3):348-349.

005003622 Silverstein, A. (1979) Neurological complications of anticoagulation therapy: a neurologist's review. Archives of Internal Medicine 139(2):217-220.

005004054 Silvestri, R.; Himes, J.A.; Edds, G.T. (1975) Repeated oral administration of coumaphos in sheep: interactions of coumaphos with bishydroxycoumarin, trichlorfon, and phenobarbital sodium. American Journal of Veterinary Research 36(3):289-292.

005001902 Simborg, D.W. (1976) Medication prescribing on a university medical service--the incidence of drug combinations with potential adverse interactions. Johns Hopkins Medical Journal 139(1):23-26.

005001903 Simel, P.J. (1978) Anticoagulation, intraocular bleeding and pupillary paralysis following Choyce intraocular lens implantation. Journal of the American Intra-Ocular Implant Society IV(3):117-119.

005009946 Simon, L.; Blotman, F.; Claustre, J. (1975) Quelques complications des anticoagulants vus en milieu rhumatologique. [Some complications of anticoagulants in rheumatology.] Rhumatologie 27(7):289-298.

005005761 Siurala, M.; Jussila, J.; Pyorala, K.; Mustala, O. (1960) Absorption of warfarin by normal and atrophic gastric mucosa [abstract]. Scandinavian Journal of Clinical and Laboratory Investigation 23(108):43.

005002697 Skjorten, F.; Evensen, S.A. (1973) Induction of disseminated intravascular coagulation in the factor XII-deficient fowl: morphological effects of liquoid, bacterial endotoxin and tissue thromboplastin in the normal and anticoagulated fowl. Thrombosis et Diathesis Haemorrhagica 30(1):25-35.

005005622 Skora-Zietek, M.; Fidelus, J. (1965) Eine polarographische Methode zur Bestimmung von 3-(alpha-Phenyl-beta-acetyl-aethyl)-4-hydroxycumarin (Warfarin). [A polarographic method for the determination of 3-(alpha-phenyl-beta-acetyl-ethyl)-4-hydroxycoumarin (warfarin).] Mikrochimica et Ichnoanalytica Acta 5(6):988-993.

005007505 Slattery, J.T. (1978) Pharmacokinetic Studies on Warfarin and Acetaminophen [Doctoral Dissertation]. Buffalo, N.Y.: State University of New York.

005008244 Slattery, J.T.; Levy, G.; Jain, A.; McMahon, F.G. (1979) Effect on naproxen on the kinetics of elimination and anticoagulant activity of a single dose of warfarin. Clinical Pharmacology and Therapeutics 25(1):51-60.

005002519 Slattery, J.T.; Yacobi, A.; Levy, G. (1977) Comparative pharmacokinetics of coumarin anticoagulants XXV: warfarin-ibuprofen interaction in rats. Journal of Pharmaceutical Sciences 66(7):943-947.

005001904 Smalls, U.; Nipper, H.C. (1977) A high performance liquid chromatographic method for the rapid determination of warfarin and its metabolites in serum. Clinical Chemistry 23(6):1138.

005002090 Smart, R.F.; Stone, A.R. (1978) Intramural oesophageal haematoma complicating anticoagulant therapy. New Zealand Medical Journal 87(607):176-177.

005005766 Smirnova, T.V.; Dukel'skaya, N.M.; Gorbunova, V.P.; Shitov, L.N.; Naumova, I.I. (1962) Analogi varfarina i ikh ratitsidnye svoistva. [Analogs of warfarin and their rodenticidal properties.] Izvestiya Vysshikh Uchebnykh Zavedenii, Khimiya i Khimicheskaya Tekhnologiya. [Bulletin of the Institutions of Higher Education, Chemistry and Chemical Technology.] 5(1):107-111.

005003299 Smit Sibinga, C.T. (1973) Prevention of vessel wall damage in experimental irradiation. Pages 242-248,*In 7th European Conference on Microcirculation; 1972, Aberdeen, Scotland. Part II: Clinical Aspects of Microcirculation. Bibliotheca Anatomica, no. 12. Edited by J. Ditzel and D.H. Lewis. Basel, Switzerland: S. Karger.

005002091 Smith, G.H. (1972) Case studies of a clinical pharmacist. American Journal of Hospital Pharmacy 29(11):958-962.

005003630 Smith, M.F.; Cameron, M.D. (1979) Warfarin as teratogen [letter]. Lancet 1(8118):727.

005001717 Smith, R.L.; Williams, R.T. (1963) Biochemistry of rodenticides. Biochemical Pharmacology. Supplement 12:199.

005001905 Smith, R.W. (1967) A new method of rat control in coconuts. Tropical Agriculture (Trinidad) 44(4):315-324.

005002092 Smith, R.W. (1967) The control of rats in coconuts using rat blocks. Oleagineux 22(3):159-160.

005001718 Smith, S.E.; Rawlins, M.D. (1974) Prediction of drug oxidation rates in man: lack of correlation with serum gamma-glutamyl transpeptidase and urinary excretion of D-glucaric acid and 6-beta-hydroxycortisol. European Journal of Clinical Pharmacology 7(1):71-75.

005001906 Smith, W.L.; Weinstein, A.S.; Wiot, J.F. (1974) Defects of the renal collecting systems in patients receiving anticoagulants. Diagnostic Radiology 113(3):649-651.

005002642 Smithells, R.W. (1976) Environmental teratogens of man. British Medical Bulletin 32(1):27-33.

005002520 Snider, R.L.; Porter, J.M.; Eidemiller, L.R. (1974) Inferior vena caval obstruction caused by expansion of an abdominal aortic aneurysm: report of a case and review of the literature. Surgery 75(4):613-616.

005003517 Snyder, J.A. (1953) I. Studies on Alkali-Labile Glycosides. II. Studies on Warfarin Dicumarol and Cyclocumarol: Doctoral Thesis. Madison, Wis.: University of Wisconsin.

005002093 Snyder, N., III; Patterson, M.; Hughes, W.S. (1973) Esophageal hematoma. Southern Medical Journal 66(9):1079-1080.

005009947 Societe Financiere de Marques et d'Exploitations Agricoles, assignee (1967) Procede d'application de poudres impalpables sur des surfaces quelconques, notamment en agriculture et dans la lutte contre les rongeurs. [Method of application of impalpable powders on any flat surfaces, particularly in agriculture and in rodent control.] French brevet d'invention 1,489,813. Jul 28. 3 p. Int. Cl. A 01n.

005002589 Soderberg, U.; Wachtmeister, C.A. (1956) The effect of large doses of 1,3-indandiones and 4-hydroxycoumarins on oxygen consumption of anesthetized cats and rabbits. Journal of Pharmacology and Experimental Therapeutics 117:298-306.

005002521 Sohn, C.; Davis, L.J. (1978) Warfarin and breast feeding. Drug Intelligence and Clinical Pharmacy 12(2):111.

005020154 Sokolov, V.E.; Kamenov, D.A. (1979) O roli svoistv protsessov vozbuzhdeniya i tormozheniya nervnoi sistemy domovykh myshei (*Mus musculus* L.) v regulyatsii endokrinnogo otveta pri deistvii varfarina. [On the role of the characteristics of the processes of stimulation and retardation of the nervous system of domestic mice (*Mus musculus* L.) in the regulation of the endocrine response with the use of warfarin.] Doklady Akademii Nauk SSSR. [Proceedings of the Academy of Sciences of the USSR.] 249(3):764-768.

005001920 Solomon, G.E.; Hilgartner, M.W.; Kutt, H. (1972) Coagulation defects caused by diphenylhydantoin. Neurology 22(11):1165-1171.

005001849 Solomon, H.M. (1968) Variations in metabolism of coumarin anticoagulant drugs. Annals of the New York Academy of Sciences 151(2):932-935.

005002094 Solomon, R.B.; Clatanoff, D.V. (1965) Evaluation of a purified preparation of warfarin sodium. American Journal of the Medical Sciences 250(6):693-696.

005006277 Sonnet, J. (1974) Interactions inopportunes entre les derives du dicoumarol et certains medicaments. [Untoward interactions between derivatives of dicoumarol and certain drugs.] Louvain Medical 93(5):305-308.

005002095 Soulier, J.P.; Blatrix, C. (1966) Resistance to coumarin anticoagulant drugs in man. Thrombosis et Diathesis Haemorrhagica. Supplement 21:257-267.

005010037 Soulier, J.P.; Blatrix, C.; Tillement, J.P. (1967) Resistance aux antivitamines K chez l'homme. [Resistance to antivitamins K in man.] Coeur et Medecine Interne VI(I):37-46.

005005763 Sova, Z.; Komarek, J. (1961) Klinicka a hematologicka diagnostika virove enteritidy a otravy Naratoxem u kocek. [The clinical and haematological diagnosis of virus-enteritis and intoxications with Neratox in cats.] Sbornik Ceskoslovenske Akademie Zemedelskych Ved, Veterinarni Medicina. [Annals of the Czechoslovak Academy of Agricultural Sciences, Veterinary Medicine.] XXXIV(10):761-770.

005001921 Speaker, J.H. (1974) A single extraction thin-layer chromatographic method in current use. Journal of Chromatographic Science 12(5):297-299.

005000626 Spiess, P.; Spiess, W., inventors; C. F. Spiess and Sohn, assignee (1955) Process of producing 3-substituted-4-hydroxycoumarins. British patent specification 734,142. Jul 27. 3 p. Cl. 2(3), C3A12.

005011060 Stacher, A. (1963) Zur Pathogenese der Hautnekrosen bei Antikoagulantientherapie. [On the pathogenesis of necroses of the skin anticoagulant therapy.] Wiener Klinische Wochenschrift 75(46):820-826.

000002317 Stack, C. (1974) [Efficacy Tests: Warfarin]. (Unpublished study including product analysis report, received Aug 14, 1974 under 12455-12; submitted by Bell Laboratories, Madison, Wis.; CDL:026543-A)

000002455 Stack, C. (1974) Summary of Test Results: [Penick Rat and Mouse Bait Tests]. (Unpublished study received Sep 4, 1974 under 432-176; prepared by Bell Laboratories, Inc., submitted by Penick Corp., Lyndhurst, N.J.; CDL:009807-A)

000002424 Stack, C. (1975) [Mouse Efficacy Data: Warfarin]. (Unpublished study received Sep 10, 1975 under 655-63; prepared by Bell Laboratories, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:227054-A)

000002289 Stack, C. (1975) [Rat Efficacy Data: Warfarin]. (Unpublished study received Jun 30, 1975 under 8842-2; prepared by Bell Laboratories, Inc., submitted by Bucknam & Archer, Garden City, N.Y.; CDL:119418-A)

000002844 Stack, L. (1973) [Acceptability Data: Pelleted Coated Warfarin: (Two Tests)]. (Unpublished study received Feb 8, 1974 under 7273-132; prepared by Bell Laboratories, submitted by Crown Chemical, Inc., Rockford, Ill.; CDL:220103-B)

000002315 Stack, L. (1973) [Efficacy and Acceptability Data: Warfarin]. (Unpublished study including product analysis report, received Apr 5, 1973 under 12455-1; submitted by Bell Laboratories, Madison, Wis.; CDL:004593-A)

000002323 Stack, L. (1973) [Efficacy Data: Warfarin]. (Unpublished study received Apr 5, 1973 under 12455-3; submitted by Bell Laboratories, Madison, Wis.; CDL:229414-B)

000003285 Stack, L. (1973) [Toxicity Data--Pelleted Coated Warfarin: Effects on Rats and Mice]. (Unpublished study received Feb 8, 1974 under 523-74; prepared by Bell Laboratories, submitted by Hopkins, Madison, Wis.; CDL:221331-A)

000002322 Stack, L. (1973) Report: [Acceptability and Packaging Study: Warfarin]. (Unpublished study received Apr 5, 1973 under 12455-1; submitted by Bell Laboratories, Madison, Wis.; CDL:004593-C)

000002321 Stack, L. (1973) Report: [Acceptability Study: Warfarin]. (Unpublished study received Apr 5, 1973 under 12455-3; submitted by Bell Laboratories, Madison, Wis.; CDL:229414-A)

000002383 Stack, L. (1973) Report: [Roberts Prolin Pellets]. (Unpublished study including product analysis report, received Sep 5, 1974 under 7273-142; prepared by Bell Laboratories, submitted by Crown Chemical, Inc., Rockford, Ill.; CDL:009884-B)

000002316 Stack, L. (1974) [Efficacy Data: Warfarin]. (Unpublished study including product analysis reports, received Jul 26, 1974 under 12455-11; submitted by Bell Laboratories, Madison, Wis.; CDL: 026542-A)

000002425 Stack, M.G. (1975) [Rat Efficacy Data: Warfarin]. (Unpublished study received Jul 21, 1975 under 655-63; prepared by Bell Laboratories, Inc., submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:123548-A)

005004094 Stahmann, M.A.; Ikawa, M.; Link, K.P., inventors; Wisconsin Alumni Research Foundation, assignee (1947) 3-substituted 4-hydroxycoumarin and process of making it. U.S. patent 2,427,578. Sep 16. 5 p. Cl. 260-333.

005002024 Stahr, H.M., ed. (1977) Analytical Toxicology Methods Manual. Ames, Iowa: Iowa State University Press.

005007115 Starr, D.F.; DiSanto, C.C., inventors; S.B. Penick & Co., assignee (1956) Process for the preparation of 3-substituted-4-hydroxycoumarins. British patent specification 753,805. Aug 1. 4 p.

005001789 Starr, K.J.; Petrie, J.C. (1972) Drug interactions in patients on long-term oral anticoagulant and antihypertensive adrenergic neuron-blocking drugs. British Medical Journal 4(833):133-135.

005005249 Steiniger, F. (1953) Ueber die Gefaehrdung von Schweinen durch Rattengifte vom Cumarintyp. [The risk to swine of coumarin-type rat poisons.] Deutsche Tieraerztliche Wochenschrift 60(23/24):245-251.

005005015 Steiniger, F. (1969) Trichinose und Rattensicherung mit Bekaempfungsmittelreserven. [Trichinosis and control of rats by pesticide reserves.] Deutsche Tieraerztliche Wochenschrift 76(15):404-406.

005001790 Stewart-Wynne, E.G. (1976) Iatrogenic femoral neuropathy. British Medical Journal 1(6004):263.

005004577 Stier, A.; Reitz, I. (1971) Radical production in amine oxidation by liver microsomes. Xenobiotica 1(4/5):499-500.

005015018 Stone, M.W.; Prochaska, R.G. (1964) Field Experiments for the Control of Cabbage Insects. Washington, D.C.: U.S. Department of Agriculture, Agricultural Research Service. (USDA report no. ARS-33-92)

005001922 Storer, T.I. (1952) Controlling Rats and Mice. Berkeley, Calif: University of California, College of Agriculture. (University of California, Agricultural Experiment Station Extension Service circular no. 410)

000006007 Storer, T.I.; Jameson, E.W., Jr. (1965) Control of Field Rodents on California Farms. Davis: Univ. of California. (Agricultural Experiment Station, Extension Service circular 535; also In unpublished submission received Apr 23, 1976 under 6704-78; submitted by U.S. Dept. of Interior, Fish and Wildlife Service, Washington, D.C.; CDL:224030-I)

005006276 Stransky, Z. (1961) Prukaz warfarinu v biologickem materialu chromatografii na papire. [The detection of warfarin in biological material by means of paper chromatography.] Ceskoslovenska Farmacie. [Czechoslovakian Pharmacy.] 10:81-83.

005001923 Sukthomya, C.; Levin, B. (1967) Pseudotumors of kidney secondary to anticoagulant therapy. Radiology 88(4):701-703.

005006883 Supin, G.S.; Sister, Y.D.; Kozlova, I.V. (1972) Polyarograficheskie metody analiza pestitsidov. [Polarographic methods of pesticide analysis.] Problemy Analiticheskoi Khimii. [Problems of Analytical Chemistry.] 2:145-155.

005002379 Suttie, J.W. (1973) Anticoagulant-resistant rats: possible control by the use of the chloro analog of vitamin K_1. Science 180(4087):741-743.

005002198 Suttie, J.W., inventor; Wisconsin Alumni Research Foundation, assignee (1977) Rodenticidal compositions containing 2-chloro-3-phytyl-1,4-naphthaquinone and warfarin. U.S. patent 4,021,568. May 3. 4 p. Int. Cl. U.S. Cl. 424/281; 424/331.

005001719 Szabuniewicz, M.; Bailey, E.M.; Wiersig, D.O. (1971) Treatment of some common poisonings in animals. Veterinary Medicine/Small Animal Clinician 66(12):1197-1205.

005001929 Szuber, T.; Brodniewicz, A. (1964) The effectiveness of some anticoagulant rodenticide dusting powders. Journal of Hygiene, Epidemiology, Microbiology, and Immunology VIII(3):332-337.

005018050 Takada, K.; Levy, G. (1980) Comparative pharmacokinetics of coumarin anticoagulants XLIV: dose-dependent pharmacokinetics of warfarin in rats. Journal of Pharmaceutical Sciences 69(1):9-14.

005003629 Takahashi, O.; Hiraga, K. (1979) Preventive effects of phylloquinone on hemorrhagic death induced by butylated hydroxytoluene in male rats. Journal of Nutrition 109(3):453-457.

005001958 Takahashi, S.; Kinoshita, Y. (1972) Effects of anticoagulants on steroidnephropathy in rabbits. Acta Medica et Biologica (Niigata) 20(2):97-103.

005002052 Takeda, Y. (1970) Studies of the effects of heparin, Coumadin, and vitamin K on prothrombin metabolism and distribution in calves with the use of iodine-125-prothrombin: characterization of the prothrombin system. Journal of Laboratory and Clinical Medicine 75(3):355-381.

005010042 Talos, V.; Sirbu, G.; Moraru, Z.; Bugariu, P.; Roth, G. (1969) Intoxicatii accidentale in masa la suine cu "Warfarat". [Accidental mass poisoning of pigs with warfarin.] Lucrari Stiintifice, Institutul Agronomic Timisoara, Seria Medicina Veterinara. [Scientific Papers, Timisoara Institute of Agronomy, Series on Veterinary Medicine.] 12:71-76.

005001913 Tammes, P.M.L.; Loosjes, F.E.; Wijnen, R. (1967) Time-response experiments with anticoagulants on rats. Acta Physiologica et Pharmacologica Neerlandica 14(4):423-433.

005003261 Tanaka, I.; Ito, Y.; Shigeta, H. (1976) [Studies on the effectiveness of the rodenticides: 1. The comparative rodenticidal efficacy of several anticoagulants.] Eisei Dobutsu. [Japanese Journal of Sanitary Zoology.] 27(4):347-353.

005012730 Tannert, W. (1976) Experimentell erzeugte Erhoehung der Toleranz gegenueber Warfarin bei der Hausmaus (*Mus musculus*). [Experimentally generated increase of the tolerance to warfarin in the domestic mouse (*Mus musculus*).] Monatshefte fuer Veterinaermedizin 31(23):895-899.

005001961 Tarloff, J.; Bachmann, K. (1976) Influence of 3,4-benzo(alpha)pyrene pretreatment on warfarin hypoprothrombinemia and disposition in the rat. Pharmacologist 18(2):161.

005002108 Taylor, A.; Townsend, M.G. (1970) Some biochemical studies on warfarin resistance in the rat. Biochemical Journal 118(3):56p-57p.

005004897 Taylor, J.C.; Lloyd, H.G.; Shillito, J.F. (1968) Experiments with warfarin for grey squirrel control. Annals of Applied Biology 61(2):312-321.

005000615 Taylor, K.D. (1963) Rodent control with special reference to the use of poisons. Tropical Stored Produce Information 6:222-225.

005002209 Taylor, K.D. (1972) The rodent problem. Outlook on Agriculture 7(2):60-67.

005007867 Taylor, M.A.; Sancilio, L.F.; Mathur, P. (1979) Interaction between warfarin and anti-inflammatory drugs in rats [abstract no. 1120]. Federation Proceedings 38(3):440.

005006278 Telle, H.J. (1954) Neue Rattenbekaempfungsmittel. [New rodenticides.] Deutsche Gesundheitswesen 9(24):769-771.

005002672 Telle, H.J. (1963) Die geschmacksabweisende Wirkung einiger Cumarinderivate. [Taste repelling effects of some coumarin derivatives.] Nachrichtenblatt fuer den Deutschen Pflanzenschutzdienst 15(5):70-73.

005005023 Telle, H.J. (1967) Die Auswahl von Rodentiziden fuer die Rattenvertilgungen und fuer die Beibehaltung eines rattenfreien Zustandes. [The selection of rodenticides for rat extermination and for the maintenance of a rat-free state.] Anzeiger fuer Schaedlingskunde XL(11):161-166.

005005024 Telle, H.J. (1972) Resistenz von Wanderratten gegenueber Warfarin in der Bundesrepublik Deutschland. [Warfarin-resistance of migrating rats in Germany.] Anzeiger fuer Schaedlingskunde und Pflanzenschutz XLV(2):17-20.

005010043 Thebault, J.; Tillement, J.P.; Blatrix, C. (1973) Interactions medicamenteuses avec les antivitamines K. [Medicinal interactions with antivitamins K.] Pathologie et Biologie 21(6):639-646.

005002535 Theran, P.; Thornton, G.W.; Lewis, R.M.; Anderson, R.K.; Hathaway, J.; Carpenter, J.; Ling, G.V. (1966) Case records on the Angell Memorial Animal Hospital. Journal of the American Veterinary Medical Association 148(11):1407-1413.

005005623 Thiemann, K.G.; Neumann, G. (1970) Zum chemisch-toxikologischen Nachweis von Warfarin. [Chemical and toxicological identification of warfarin.] Archiv fuer Experimentelle Veterinaermedizin 24(3):731-733.

005001736 Thierry, M.J.; Hermodson, M.A.; Suttie, J.W. (1970) Vitamin K and warfarin distribution and metabolism in the warfarin-resistant rat. American Journal of Physiology 219(4):854-859.

005002029 Thierry, M.J.; Suttie, J.W. (1971) Effect of warfarin and the chloro analog of vitamin K_1 on phylloquinone metabolism. Archives of Biochemistry and Biophysics 147(2):430-435.

005005968 Thies, H.A. (1963) Nebenwirkungen von Antikoagulantien. [Side effects of anticoagulants.] Chemotherapia (Basel) 6(6):303-314.

005001737 Thoerig, L.; Thompson, J.; Eulderink, F. (1977) Effect of warfarin on the induction and course of experimental*Staphylococcus epidermis endocarditis. Infection and Immunity 17(3):504-509.

005002625 Thompson, F. (1951) Warfarin progress report. Soap and Sanitary Chemicals 27:111.

005001804 Thompson, H.L.; Decker, W.J. (1968) Analysis of blood: a simplified gas chromatographic approach for toxicologic purposes. American Journal of Clinical Pathology 49(1):103-107.

005002331 Thomson, W.T. (1965) III. Miscellaneous chemicals: fumigants, growth regulators, repellents and rodenticides. Pages 1-182, In Agricultural chemicals. Davis, CA: Simmons.

005002208 Thornes, R.D. (1969) Anticoagulant therapy in patients with cancer. Journal of the Irish Medical Association 62(390):426-429.

005001807 Thornes, R.D.; Edlow, D.W.; Wood, S., Jr. (1968) Inhibition of locomotion of cancer cells in vivo by anticoagulant therapy. I. Effects of sodium warfarin on V2 cancer cells, granulocytes, lymphocytes and macrophages in rabbits. Johns Hopkins Medical Journal 123(6):305-316.

005016446 Thorsteinson, A.J. (1960) Chemosensory influence of odourous plant constituents on some phytophagous insects. Pages 12-13, In Proceedings of the Entomological Society of Manitoba. Vol. 16. Winnipeg, Manitoba, Canada: Entomological Society of Manitoba.

005001914 Tiffney, J.W. (1973) A review of rodent control methods with particular reference to warfarin resistance. Environmental Health 81(3):48-49.

000002461 Til, H.P.; Spanjers, M.T.; Sinkeldam, E.J. (1974) Acute and Subacute Oral Toxicity Studies with Pyranocumarin and Warfarin in Cats, Hens and Quail: Rapport Nr. R 4358. (Unpublished study received Jun 15, 1977 under 655-539; prepared by Central Institute for Nutrition and Food Research for Schering AG., submitted by Prentiss Drug and Chemical Co., Inc., New York, N.Y.; CDL: 230856-A)

005010001 Tillement, J.P.; Albengres, E.; Urien, S. (1979) Les significations pharmacologiques possibles de la fixation d'un medicament aux proteines plasmatiques. [Possible pharmacological implications of the fixation of a drug to plasma proteins.] Nouvelle Revue Francaise d'Hematologie. Supplement 21:xxxv-xxxvii.

005001738 Tilstone, W.J.; Gray, J.M.B.; Nimmo-Smith, R.H.; Lawson, D.H. (1977) Interaction between warfarin and sulphamethoxazole. Postgraduate Medical Journal 53(621):388-390.

005002107 Tong, D. (1976) Heparin therapy in Coumadin breast necrosis [letter]. Annals of Internal Medicine 84(2):222.

005020144 Tooby, T.E.; Hursey, P.A.; Alabaster, J.S. (1975) The acute toxicity of 102 pesticides and miscellaneous substances to fish. Chemistry and Industry (London) (12):523-526.

005001806 Tooby, T.E.; Hursey, P.A.; Alabaster, J.S. (1975) The acute toxicity of 102 pesticides and miscellaneous substances to fish. Chemistry and Industry (London) 12:523-526.

005009951 Tork, I. (1972) Stanoveni Warfarinu v biologickem materialu polarografickou metodou. [Determinating warfarin in biological material by polarographic method.] Veterinarstvi. [Veterinary Medicine.] 22(12):552-554.

005002106 Torosian, M.; Michelson, E.L.; Morganroth, J.; MacVaugh, H., III (1978) Aspirin- and Coumadin-related bleeding after coronary-artery bypass graft surgery. Annals of Internal Medicine 89(3):325-328.

005001808 Townsend, M.G.; Odam, E.M. (1976) The identification of two products formed during the methylation of warfarin with diazomethane. Chemistry and Industry (London) (6):274-275.

005001959 Townsend, M.G.; Odam, E.M.; Page, J.M.J. (1975) Studies of the microsomal drug metabolism system in warfarin-resistant and -susceptible rats. Biochemical Pharmacology 24(6):729-735.

005001962 Townsend, M.G.; Tarrant, K.A. (1977) In vitro studies of warfarin metabolism by birds and mammals. Xenobiotica 7(1/2):114-115.

005003811 Trager, W.F. (1977) Enantiomeric selectivity and perturbation of product ratios as methods for studying the multiplicity of microsomal enzymes. Pages 81-98, In Drug Metabolism Concepts. Washington, D.C.: American Chemical Society. (ACS symposium series, vol. 44)

005006265 Trager, W.F.; Lewis, R.J.; Garland, W.A. (1970) Mass spectral analysis in the identification of human metabolites of warfarin. Journal of Medicinal Chemistry 13(6):1196-1204.

005012825 Trager, W.F.; Pohl, L.R.; Nelson, S.D.; Porter, W.R.; Fasco, M.J.; Baker, F.W.; Fenton, J.H. (1975) The stereochemical biotransformation of warfarin by rat liver microsomes as a probe of the homogeneity and mechanism of microsomal oxygenases [abstract no. 231]. Pharmacologist 17(2):217.

005005764 Trakhanov, D.F. (1963) Natrivaya sol' zookumarina dlya deratizatsii. [Zoocoumarin sodium salt for rat extermination.] Veterinariya (Moscow). [Veterinary Science.] 45(11):101-102.

005005720 Trehet, A.F.E., inventor; (1970) Produit commercialisable pour la destruction des rats musques. [Marketable product for the destruction of muskrats.] French brevet d'invention 1,601,076. Sep 18. 1 p. Int. Cl. A 01 N.

005006148 Trenet, A.F.E., inventor; (1971) Produit commercialisable pour la destruction des rats musques et de tous rongeurs aquatiques, des campagnols. [Marketable product for the destruction of muskrats and all water rodents and voles.] French addition au brevet d'invention 2,055,941. May 14. 3 p. Int Cl. A 01n 17/00.

005001960 Triggs, E.J.; Nation, R.L. (1975) Pharmacokinetics in the aged: a review. Journal of Pharmacokinetics and Biopharmaceutics 3(6):387-418.

005016547 Trkovnik, M.; Ramic, S.; Grujic-Vasic, J. (1965) Kromatografska ispitivanja nekih derivata kumarina. [Chromatographic studies of some coumarin derivatives.] Glasnik Hemicara i Tehnologa Bosne i Hercegovine. [Bulletin of the Chemists and Technologists of Bosnia and Herzegovina.] 13/14:85-89.

005007728 Tseng, H.T. (1972) Zinc phosphide--a new rat control agent recommended by TSC. Taiwan Sugar 19(5):172.

005002523 Tsuyuki, H. (1954) Studies on Three Compounds of Biochemical Interest: I. The Mechanism of Warfarin Formation from 4-Hydroxycoumarin and Beta-Anilinobenzylacetone. II. The Chemical Modification of Tobacco Mosaic Virus. III. The Chemical Oxidation of Octamethylpyrophosphoramides and its Relation to Biological Properties: Doctoral Thesis. Madison, Wis.: University of Wisconsin.

005007026 Tsvetkova, T.; Roja, M.; Roberto, E.; Perez, Z. (1977) T''nkosloinokhromatografsko opredelyane na nyakoi proizvodni na kumarina. [Thin-layer chromatography of some coumarin derivatives.] Veterinarno-Meditsinski Nauki. [Veterinary Science.] XIV(1):42-46.

005002210 Turner, T. (1973) Toxicity of metaldehyde to dogs [letter]. Veterinary Record 93(19):524.

005005632 Turov, I.S. (1970) Materialy k sravnitel'noi kharakteristike nekotorykh deratizatsionnykh preparatov pri izuchenii ikh v vol'ere. [Comparative characteristics of some rodenticides from a study of their use in a poultry yard.] Trudy Tsentral'nogo Nauchno-Issledovatel'skogo Dezinfektsionnogo Instituta. [Transactions of the Central Scientific Research Institute of Disinfection.] 19:411-417.

000005932 U.S. Fish and Wildlife Service (1959) Characteristics of Common Rodenticides. Rev. Washington, D.C.: U.S. Dept. of Interior. (Wildlife leaflet 337; also In unpublished submission received Sep 25, 1969 under 0F0890; submitted by Hawaii, Dept. of Agriculture, Honolulu, Hawaii; CDL:093187-S)

000002434 U.S. Fish and Wildlife Services (1973) Anticoagulant Rodenticides for Control of Rats and Mice. (Wildlife Leaflet 402; unpublished study received Nov 24, 1975 under 655-543; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-K)

000014335 U.S. Public Health Service (1950) Clinical Memorandum: Compound 42. (Unpublished study received May 26, 1950 under unknown admin. no.; prepared by Communicable Disease Center, Technical Development Services, submitted by ; CDL:105309-B)

000002833 U.S. Public Health Service (1952) Clinical Memorandum: Warfarin: TDB 5-1-52: 1st Revision. (Unpublished study received May 1, 1952 under unknown admin. no.; prepared by Communicable Disease Center, Technical Development Branch, submitted by ; CDL: 105314-A)

000002294 U.S. Public Health Service (1954) Clinical Memorandum: Warfarin. Rev. By Communicable Disease Center, Technology Branch, Technical Development Laboratories. (Unpublished study received Apr 1, 1954 under unknown admin. no.; submitted by ; CDL: 105298-A)

000002400 U.S. Public Health Service (1956) Clinical Memoranda on Economic Poisons: Section on Warfarin. Rev. (Unpublished study received Oct 13, 1965 under unknown admin. no.; prepared by Communicable Disease Center, Technical Development Laboratories, submitted by Wisconsin Alumni Research Foundation, Madison, Wis.; CDL: 126812-B)

005002251 Udall, J.A. (1966) Vitamin K and coumarin drug interrelationships in man. Current Therapeutic Research, Clinical and Experimental 8(12):627-631.

005002250 Udall, J.A. (1970) Drug interference with warfarin therapy. Clinical Medicine 77:20-25.

005007108 Udall, J.A. (1970) Drug interference with warfarin therapy. Clinical Medicine 77(8):20-25.

005003520 Udall, J.A. (1970) Warfarin therapy not influenced by meprobamate: a controlled study in nine men. Current Therapeutic Research, Clinical and Experimental 12(11):724-728.

005006889 Udall, J.A. (1974) Warfarin-chloral hydrate interaction: pharmacological activity and clinical significance. Annals of Internal Medicine 81(3):341-344.

005007109 Udall, J.A. (1975) Clinical implications of warfarin interactions with five sedatives. American Journal of Cardiology 35(1):67-71.

005007111 Udall, J.A. (1975) Warfarin interactions with chloral hydrate and glutethimide. Current Therapeutic Research 17(1):67-74.

005013844 Udall, N.D. (1975) Common poisons of dogs and cats: their diagnosis and treatment. Veterinary Annual 15:284-288.

005002986 Upholt, W.M.; Kearney, P.C. (1966) Pesticides. New England Journal of Medicine 275(25):1419-1426.

005009867 Uyeda, S. (1956) Bird problems with use of warfarin oats. Pages 19-20, In Hawaiian Sugar Technologists Report No. 15. Honglulu, Hawaii: Hawaiian Stgar Tec°nologists.

005001881 Vagenakis, A.G.; Cote, R.; Miller, M.E.; Braverman, L.E.; Stohlman, F., Jr. (1972) Enhancement of warfarin-induced hypoprothrombinemia by thyrotoxicosis. Johns Hopkins Medical Journal 131(1):69-73.

000014335 U.S. Public Health Service (1950) Clinical Memorandum: Compound 42. (Unpublished study received May 26, 1950 under unknown admin. no.; prepared by Communicable Disease Center, Technical Development Services, submitted by ; CDL:105309-B)

000002833 U.S. Public Health Service (1952) Clinical Memorandum: Warfarin: TDB 5-1-52: 1st Revision. (Unpublished study received May 1, 1952 under unknown admin. no.; prepared by Communicable Disease Center, Technical Development Branch, submitted by ; CDL: 105314-A)

000002294 U.S. Public Health Service (1954) Clinical Memorandum: Warfarin. Rev. By Communicable Disease Center, Technology Branch, Technical Development Laboratories. (Unpublished study received Apr 1, 1954 under unknown admin. no.; submitted by ; CDL: 105298-A)

000002400 U.S. Public Health Service (1956) Clinical Memoranda on Economic Poisons: Section on Warfarin. Rev. (Unpublished study received Oct 13, 1965 under unknown admin. no.; prepared by Communicable Disease Center, Technical Development Laboratories, submitted by Wisconsin Alumni Research Foundation, Madison, Wis.; CDL: 126812-B)

005002251 Udall, J.A. (1966) Vitamin K and coumarin drug interrelationships in man. Current Therapeutic Research, Clinical and Experimental 8(12):627-631.

005002250 Udall, J.A. (1970) Drug interference with warfarin therapy. Clinical Medicine 77:20-25.

005007108 Udall, J.A. (1970) Drug interference with warfarin therapy. Clinical Medicine 77(8):20-25.

005003520 Udall, J.A. (1970) Warfarin therapy not influenced by meprobamate: a controlled study in nine men. Current Therapeutic Research, Clinical and Experimental 12(11):724-728.

005006889 Udall, J.A. (1974) Warfarin-chloral hydrate interaction: pharmacological activity and clinical significance. Annals of Internal Medicine 81(3):341-344.

005007109 Udall, J.A. (1975) Clinical implications of warfarin interactions with five sedatives. American Journal of Cardiology 35(1):67-71.

005007111 Udall, J.A. (1975) Warfarin interactions with chloral hydrate and glutethimide. Current Therapeutic Research 17(1):67-74.

005013844 Udall, N.D. (1975) Common poisons of dogs and cats: their diagnosis and treatment. Veterinary Annual 15:284-288.

005002986 Upholt, W.M.; Kearney, P.C. (1966) Pesticides. New England Journal of Medicine 275(25):1419-1426.

005009867 Uyeda, S. (1956) Bird problems with use of warfarin oats. Pages 19-20, In Hawaiian Sugar Technologists Report No. 15. Honolulu, Hawaii: Hawaiian Sugar Technologists.

005001881 Vagenakis, A.G.; Cote, R.; Miller, M.E.; Braverman, L.E.; Stohlman, F., Jr. (1972) Enhancement of warfarin-induced hypoprothrombinemia by thyrotoxicosis. Johns Hopkins Medical Journal 131(1):69-73.

005001880 Vainieri, H. (1974) Kinetics of Anticoagulant Effect of Warfarin in Rats: Doctoral Dissertation. Pittsburgh, Pa.: University of Pittsburgh, School of Engineering. (Available from: Xerox University Microfilms, Ann Arbor, Michigan; order no. 75-13,651)

005001886 Vainieri, H.; Wingard, L.B., Jr. (1977) Effect of warfarin on the kinetics of the vitamin K-dependent clotting factors in rats. Journal of Pharmacology and Experimental Therapeutics 201(2):507-517.

005001877 Valente, E.J.; Lingafelter, E.C.; Porter, W.R.; Trager, W.F. (1976) The structure of warfarin in solution. Abstracts of Papers of the American Chemical Society 172:97.

005001885 Valente, E.J.; Lingafelter, E.C.; Porter, W.R.; Trager, W.F. (1977) Structure of warfarin in solution. Journal of Medicinal Chemistry 20(11):1489-1493.

005001883 Valente, E.J.; Porter, W.R.; Trager, W.F. (1978) Conformations of selected 3-substituted 4-hydroxycoumarins in solution by nuclear magnetic resonance. Warfarin and phenprocoumon. Journal of Medicinal Chemistry 21(2):231-234.

005001884 Valente, E.J.; Trager, W.F. (1978) Anomalous chiroptical properties of warfarin and phenprocoumon. Journal of Medicinal Chemistry 21(1):141-143.

005001708 Valente, E.J.; Trager, W.F.; Jensen, L.H. (1975) The crystal and molecular structure and absolute configuration of (--)-(S)-warfarin. Acta Crystallographica, Section B (31):954-960.

005002514 Vallner, J.J.; Chen, L. (1977) Beta-lipoproteins: possible plasma transport proteins for basic drugs. Journal of Pharmaceutical Sciences 66(3):420-421.

005001709 Van Buskirk, J.J.; Kirsch, W.M. (1973) Loss of hepatoma ribosomal RNA during warfarin therapy. Biochemical and Biophysical Research Communications 52(2):562-568.

005001882 van den Berg, J.H.M.; Wielders, J.P.M.; Scheeren, P.J.H. (1977) Determination of anticoagulants in serum by column liquid chromatography. Journal of Chromatography 144(2):266-269.

005002084 Van der Vijgh, W.J.F.; Grootendorst, B.C. (1978) The interaction of some coumarin anticoagulants with cholestyramine and colestipol hydrochloride. An in vitro study. Pharmaceutisch Weekblad 113(6):105-110.

005001710 Vanhaelen-Fastre, R.; Vanhaelen, M. (1976) High-performance liquid and thin-layer chromatography of coumarin anticoagulants and their degradation products. Journal of Chromatography 129:397-402.

005007875 Vargas, R.; Aleman, P.; Santos, D. (1975) Anticoagulantes y antitromboticos en la glomerulonefritis rapidamente progresiva del nino. [Anticoagulants and antithrombotics in rapidly progressive glomerulonephritis of children.] Boletin Medico del Hospital Infantil de Mexico XXXII(5):803-813.

005002012 Varon, M.L.; Cole, L.J. (1966) Hemopoietic colony-forming units in regenerating mouse liver: suppression by anticoagulents. Science 153(3736):643-644.

005012879 Vashkov, V.I.; Nedelin, K.T.; Sukhareva, N.D.; Safonova, E.P. (1957) Deratizatsionnyi preparat zookumarin. [Zoocoumarin as a rat poison.] Farmakologiya i Toksikologiya (Moscow). [Pharmacology and Toxicology.] 20(1):80-82.

005018071 Vasiliev, R.; Sisman, E. (1976) Dozarea spectrofotometrica in ultraviolet a unor medicamente din grupa benzopiranului. [Ultraviolet spectrophotometric determination of some drugs of the benzopyran group.] Farmacia (Bucharest). [Pharmacy.] XXIV(3):151-158.

005002079 Vaughan, E.D., Jr.; Moore, R.A.; Warren, H.; Moler, D.N.; Gillenwater, J.Y. (1969) Skin necrosis of genitalia and warfarin therapy [letter]. Journal of the American Medical Association 210(12):2282-2283.

000002463 Velsicol Chemical Corporation (19??) Acute Toxicity. (Unpublished study received Feb 27, 1978 under unknown admin. no.; CDL: 232942-C)

000003286 Velsicol Chemical Corporation (1975) Efficacy of Warfarin Concentrate Rodenticide against Rats and Mice. Includes method AM 0574 dated Oct 2, 1973 and method AM 0556A dated Apr 26, 1974. (Unpublished study recieved Feb 3, 1976 under 876-115; CDL:223624-A)

000002850 Velsicol Chemical Corporation (1975) Efficacy of Warfarin Plus Concentrate Rodenticide against Rats and Mice. Includes method AM 0574 dated Oct 2, 1973 and method AM 0556A dated Apr 26, 1974. (Unpublished study received Feb 3, 1976 under 876-116; CDL:223623-A)

005001879 Vermeer, C.; Soute, B.A.M.; Hemker, H.C. (1978) In vitro prothrombin synthesis from a purified precursor protein. II. Partial purification of bovine carboxylase. Biochimica et Biophysica Acta 523(2):494-505.

005001878 Vesell, E.S. (1969) Recent progress in pharmacogenetics. Pages 1-52, In Advances in Pharmacology and Chemotherapy. Vol. 7. New York: Academic Press.

005001787 Vesell, E.S. (1975) Pharmacogenetic factors as determinants of drug activity. Pages 982-988, In Neuropsychopharmacology: Proceedings of the IX Congress of the "Collegium Internationale Neuropsychopharmacologicum"; Jul 7-12, 1974, Paris. Amsterdam, Netherlands: Excerpta Medica. (Excerpta Medica International Congress series no. 359)

005004763 Vesell, E.S. (1975) Pharmacogenetics--the individual factor in drug response. Triangle 14(3/4):125-130.

005002195 Vesell, E.S.; Passananti, G.T. (1975) Anomalous results of studies on drug interaction in man. II. Halofenate (MK-185) and antipyrine, bishydroxycoumarin, and warfarin. Pharmacology 13(2):112-127.

005001786 Vesell, E.S.; Passananti, G.T.; Johnson, A.O. (1975) Failure of indomethacin and warfarin to interact in normal human volunteers. Journal of Clinical Pharmacology 15(7):486-495.

000002365 Veterinary School of Lyon, France (19??) Toxicity in Pigs: A Comparison of Chlorophacinone and Warfarine [sic]. (Unpublished study received Jul 24, 1970 under 7173-62; CDL:008006-K)

005016546 Viado, G.B. (1951) Warfarin and lindane: two new pest contol materials in the market. Agricultural and Industrial Life 13(4):12,33,38.

005000682 Villa, M.M. (1965) Formulas y recommendaciones para el combate de la rata de campo Sigmodon sp. [Formulas and recommendations for combatting field rats, Sigmodon species .] Fitofilo 18(48):29-44.

000002842 Vineland Laboratories, Incorporated (1971) Simulated Field Trial Warfet Throw Pak vs. Rats. (Unpublished study received Oct 1, 1971 under 6035-48; CDL:022452-A)

005002067 Vishwambharan, P.R. (1968) Hydroxy coumarins as rodenticide in warehouses. Bulletin of Grain Technology 6(2):106-109.

005014582 von Ruemker, R.; Lawless, E.W.; Meiners, A.F.; Lawrence, K.A.; Kelso, G.L.; Horay, F. (1974) Production, Distribution, Use and Environmental Impact Potential of Selected Pesticides. Washington, D.C.: Council on Environmental Quality. (Available from: NTIS, Springfield, VA; PB-238 795)

000002344 Von Sumpter, D.T. (1961) Pharmacology and Rodenticide Laboratory Report, July 1, 1961. (Unpublished study received Jul 1, 1961 under unknown admin. no., submitted by Abbott Laboratories, North Chicago, Ill.; CDL:105296-A)

005004390 Vyas, L.N.; Garg, R.K. (1974) Reversal of the effect of growth inhibitors by gibberellic acid and indole acetic acid. Biochemie and Physiologie der Pflanzen 166(5/6):549-554.

005004762 Waddell, W.R. (1973) Chemotherapy for carcinoma of the pancreas. Surgery 74(3):420-429.

005002235 Wade, D.N.; Sudlow, G.; Birkett, D.J. (1975) The characterization of two specific drug binding sites on human serum albumin. Clinical and Experimental Pharmacology and Physiology 2(5):449.

005010041 Waehner, J. (1977) Erfolgreiche rattenbekaempfung in gartenbaubetrieben. [Successful control of rats in horticultural holdings.] Deutscher Gartenbau 31(52):2127-2128.

005002124 Wagner, J.G. (1971) Assay of warfarin: a rebuttal [letter]. Journal of Pharmaceutical Sciences 60(8):1272-1273.

005003928 Wagner, J.G. (1971) Methods of estimation of bioavailability. Pages 180-189, In Biopharmaceutics and Relevant Pharmacokinetics. Hamilton, Ill.: Drug Intelligence Publications.

005001939 Walker, R.G. (1968) Pulmonary complications in cases of suspected warfarin poisoning in the dog. Veterinary Record 83(6):148-150.

005001727 Wallace, M.E.; MacSwiney, F.J. (1976) A major gene controlling warfarin-resistance in the house mouse. Journal of Hygiene 76(2):173-181.

005003621 Wallace, S.M.; Hindmarsh, K.W.; Riddell, B.C. (1978) Investigation of warfarin dosage problems. Canadian Journal of Pharmaceutical Sciences 13(4):101.

005008226 Wallin, B.A.; Jacknowitz, A.; Raich, P.C. (1979) Cimetidine and effect of warfarin [letter]. Annals of Internal Medicine 90(6):993.

005002026 Walton, L.A. (1969) Bleeding corpus luteum from anticoagulation therapy [letter] Obstetrics and Gynecology 33(3):450.

005007615 Wang, P.Y. (1973) Control of sugarcane field rats with zinc phosphide. Taiwan Sugar 20:110-113.

005002381 Wang, P.Y. (1973) Control of sugarcane field rats with zinc phosphide. Taiwan Sugar 20(3):110-113.

005005027 Wangenheim, M.; Pasi, A.; Jenny, E. (1971) Rodentizidvergiftungen bei Tieren in der Schweiz. [Rodenticide poisonings of animals in Switzerland.] Schweizer Archiv fuer Tierheilkunde 113:350-360.

005015593 Wangenheim, M.; Pasi, A.; Jenny, E. (1971) Rodentizidvergiftungen bei Tieren in der Schweiz: Erfahrungen des Schweizerischen Toxikologischen Informationszentrums. [Rodenticide poisoning in animals in Switzerland: findings of the Swiss Toxicological Information Centre.] Schweizer Archiv fuer Tierheilkunde 113(7):350-360.

005002266 Wardell, W.M. (1974) Redistributional drug interactions: a critical examination of putative clinical examples. Pages 123-134, In Drug Interactions. Edited by P.L. Morselli, S. Garattini and S.N. Cohen. New York: Raven Press.

000002384 WARF Institute, Incorporated (19??) [Efficacy Data: Warfarin and White Rats]: Test No. 223. (Unpublished study received Oct 24, 1973 under 7273-130; submitted by Crown Chemical, Inc., Rockford, Ill.; CDL:020081-A)

000002385 WARF Institute, Incorporated (19??) [Efficacy Data: Wild House Mice]: Test No. 312. (Unpublished study received Oct 24, 1973 under 7273-130; submitted by Crown Chemical, Inc., Rockford, Ill.; CDL:020081-B)

000003291 WARF Institute, Incorporated (1971) Report: [Efficacy Data: Warfarin]. (Unpublished study received Sep 9, 1974 under 655-246; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:009819-B)

000003293 WARF Institute, Incorporated (1971) Report: [Prolin Pellets on Adult Female Wild Norway Rats]. (Unpublished study received Jun 18, 1971 under 523-33; submitted by Hopkins, Madison, Wis.; CDL:018067-B)

000003292 WARF Institute, Incorporated (1971) Report: [Prolin Pellets on Adult Male Norway Rats]: WARF No. 1050247. (Unpublished study received Jun 18, 1971 under 523-33; submitted by Hopkins, Madison, Wis.; CDL:018067-A)

000002393 WARF Institute, Incorporated (1971) Report: [Prolin Pellets on Male Norway Rats]: WARF No. 1050247. (Unpublished study received Jan 11, 1973 under 1386-419; submitted by Universal Cooperatives, Inc., Minneapolis, Minn.; CDL:024850-B)

000002390 WARF Institute, Incorporated (1971) Report: [Rodenticide Acceptability Assay]. (Unpublished study received Jun 18, 1971 under 7273-60; submitted by Crown Chemical, Inc., Rockford, Ill.; CDL:220131-A)

000002410 WARF Institute, Incorporated (1972) [Bait Acceptability Tests: Warfarin]: WARF No. 2111311. (Unpublished study received Jan 26, 1973 under 3286-17; submitted by Ferd Staffel Co., San Antonio, Tex.; CDL:009605-A)

000002394 WARF Institute, Incorporated (1972) Report: [Prolin Pellets on Female Norway Rats]. (Unpublished study received Jan 11, 1973 under 1386-419; submitted by Universal Cooperatives, Inc., Minneapolis, Minn.; CDL:024850-C)

000002446 WARF Institute, Incorporated (1972) Report: [Prolin]: WARF No. 2062823. (Unpublished study received Dec 4, 1972 under 523-33; submitted by Hopkins, Madison, Wis.; CDL:018065-A)

000002297 WARF Institute, Incorporated (1973) [A Comparison of the Acceptability of .025% Encapsulated Warfarin Bait with Non-Toxic EPA Bait: Test Nos. 313 & 314]. (Unpublished study received Jun 27, 1973 under 2521-10; CDL:006686-A)

000002413 WARF Institute, Incorporated (1973) [Acceptability Data of Pelletized Commercial Rodenticide Bait Containing Encapsulated Warfarin]: Test No W-332. (Unpublished study received Feb 8, 1974 under 523-74; submitted by Hopkins, Madison, Wis.; CDL:221331-B)

000002414 WARF Institute, Incorporated (1973) [Acceptability Data on Pelletized Commercial Rodenticide Bait Containing Nonencapsulated Warfarin]: Consolidation of Tests W-334 and 335. (Unpublished study received Feb 8, 1974 under 523-74; submitted by Hopkins, Madison, Wis.; CDL:221331-C)

000002389 WARF Institute, Incorporated (1973) [Acceptability Data: Pelletized Encapsulated Warfarin]: Test Nos. W332, W334, W335. (Unpublished study received Feb 8, 1974 under 7273-132; submitted by Crown Chemical, Inc., Rockford, Ill.; CDL:220103-A)

000002447 WARF Institute, Incorporated (1973) Report: Warfarin. (Unpublished study received May 21, 1974 under 523-74; submitted by Hopkins, Madison, Wis.; CDL:221900-A)

000002411 WARF Institute, Incorporated (1974) [Rodenticide Acceptability Assay: Warfarin]: WARF No. 4030900. (Unpublished study received Jun 4, 1974 under 3286-17; submitted by Ferd Staffel Co. San Antonio, Tex.; CDL:017099-A)

000002348 WARF Institute, Incorporated (1974) Report: [Warfarin: Windler Rat and Mouse Killer: Rodenticide Acceptability Assay: WARF No. 4044334]. (Unpublished study received Jul 16, 1974 under 5836-3; submitted by Windler Pest Control, Fowler, Ind.; CDL: 026518-A)

000002836 WARF Institute, Incorporated (1974) Report: Analysis for Sulfaquinoxaline: WARF Institute No. 4083799-3800. (Unpublished study received Sep 30, 1974 under 7276-17; submitted by RMC Products Co., Fort Dodge, Iowa; CDL:028208-A)

000003283 WARF Institute, Incorporated (1974) Report: Analysis for Warfarin: WARF Institute No. 4090727-0728. (Unpublished study received Sep 30, 1974 under 7276-17; submitted by RMC Products Co.. Fort Dodge, Iowa; CDL:028208-B)

000002311 WARF Institute, Incorporated (1975) Report: [Acorn Rat and Mouse Killer: Rodenticide Acceptability Assay: WARF No. 5011735]. (Unpublished study received Mar 7, 1975 under 8043-1; submitted by Lowman Co., Waterloo, Ind.; CDL:028467-A)

000002285 WARF Institute, Incorporated (1976) Analysis for Warfarin: [Physico-Chemical Specifications]: WARF Institute No. 6090837. (Unpublished study received Jun 6, 1977 under 8590-475; submitted by Agway, Inc., Syracuse, N.Y.; CDL:230358-A)

005001722 Warkany, J. (1975) A warfarin embryopathy. American Journal of Diseases of Children 129:287-288.

005001730 Warkany, J. (1976) Warfarin embryopathy. Teratology 14:205-209.

005001930 Wasserman, A.J.; Gutterman, L.A.; Yoe, K.B.; Kemp, V.E., Jr.; Richardson, D.W. (1966) Anticoagulants in acute myocardial infarction: the failure of anticoagulants to alter mortality in a randomized series. American Heart Journal 71(1):43-49.

005001938 Watt, J.G.; Doxey, D.L. (1961) A case of warfarin poisoning in a Labrador bitch. Veterinary Record 73(22):548-552.

005001726 Wawzonek, S.; McIntyre, T.W. (1966) Polarographic behavior of warfarin and related compounds. Journal of Electroanalytical Chemistry 12(5/6):544-546.

005013671 Waxman, M.; Baird, G.J. (1978) Corpus luteum hemorrhage: cause of acute abdominal pain in patients receiving anticoagulant therapy. Journal of the American Medical Association 239(21):2270-2271.

005001937 Weiner M. (1966) Effect of centrally active drugs on the action of coumarin anticoagulants. Nature (London) 212(5070):1599-1600.

005001728 Weintraub, M.; Breckenridge, R.T.; Griner, P.F. (1973) The effects of dextrothyroxine on the kinetics of prothrombin activity: proposed mechanism of the potentiation of warfarin by D-thyroxine. Journal of Laboratory and Clinical Medicine 81(2):273-279.

005002280 Weintraub, M.; Griner, P.F. (1974) Warfarin and ascorbic acid: lack of evidence for a drug interaction. Toxicology and Applied Pharmacology 28(1):53-56.

005001791 Weintraub, M.; Griner, P.F. (1975) Halofenate-warfarin interaction. Clinical Research 23(3):385A.

005005634 Weller, P. (1962) Gefahren und Nebenwirkungen der Antikoagulantienbehandlung. [Dangers and secondary effects of anticoagulation treatment.] Zietschrift fuer die Gesamte Innere Medizin und Ihre Grenzgebiete 17(8):365.

005001729 Welling, P.G.; Lee, K.P.; Khanna, U.; Wagner, J.G. (1970) Comparison of plasma concentrations of warfarin measured by both simple extraction and TLC methods. Journal of Pharmaceutical Sciences 59(11):1621-1625.

005001725 Wells, A.O.; Holloman, J.L.S., Jr.; Wroblewski, F. (1962) Effect of anticoagulant therapy on serum cholesterol levels. Journal of the American Geriatrics Society X(10):885-888.

005002099 Wells, J.; Templeton, J. (1977) Femoral neuropathy associated with anticoagulant therapy. Clinical Orthopaedics and Related Research 124:155-160.

005001936 West, B.D.; Preis, S.; Schroeder, C.H.; Link, K.P. (1961) Studies on the 4-hydroxycoumarins. XVII. The resolution and absolute configuration of warfarin. Journal of the American Chemical Society 83:2676-2679.

005001931 Wheals, B.B.; Jane, I. (1977) Analysis of drugs and their metabolites by high-performance liquid chromatography. Analyst (London) 102(1218):625-644.

005001724 Whitfield, J.B.; Moss, D.W.; Neale, G.; Orme, M.; Breckenridge, A. (1973) Changes in plasma gamma-glutamyl transpeptidase activityassociated with alterations in drug metabolism in man. British Medical Journal 1(5849):316-318.

005001932 Whitlon, D.S.; Sadowski, J.A.; Suttie, J.W. (1978) Mechanism of coumarin action: significance of vitamin K epoxide reductase inhibition. Biochemistry 17(8):1371-1377.

005011359 WHO Expert Committee on Insecticides (1973) Specifications for Pesticides Used in Public Health: Insecticides--Rodenticides--Molluscicides--Repellents--Methods. 4th ed. Geneva, Switzerland: World Health Organization.

005002421 Wiener, C. (1960) Chemical Investigations of Some Coumarin Compounds. I. The Synthesis of Various 3-Substituted-4-Alkylcoumarins. II. The Characterization of the Product Obtained by the Treatment of Warfarin with Hydrazoic Acid (Schmidt Reaction) and the Synthesis of the Iosmeric Amide. III. Location of the Site of Attachment of the Nitrogen Atoms in Products Obtained Via the Reaction of Ammonium Acetate with 3-Acyl-4-Hydroxycoumarins: Doctoral Dissertation. Madison, Wis.: University of Wisconsin. (Available from University Microfilms, Ann Arbor, MI., order no. 60-5809)

005002201 Wiener, C.; Schroeder, C.H.; West, B.D.; Link, K.P. (1962) Studies on the 4-hydroxycoumarins. XVIII. 3-[alpha-(acetamidomethyl)benzyl]-4-hydroxycoumarin and related products. Journal of Organic Chemistry 27:3086-3088.

005001723 Wilding, G.; Feldhoff, R.C.; Vesell, E.S. (1977) Concentration-dependent effects of fatty acids on warfarin binding to albumin. Biochemical Pharmacology 26(12):1143-1146.

005001935 Wilding, G.; Paigen, B.; Vesell, E.S. (1977) Genetic control of interindividual variations in racemic warfarin binding to plasma and albumin of twins. Clinical Pharmacology and Therapeutics 22(6):831-842.

005006353 Wilk, W. (1957) Vergleichende pharmakologische und toxikologische Pruefung von Scillirosid-, Alpha-Napthylthiobarnstoff- und Cumarin-Praeparaten (Experimenteller Beitrag zur Rattenvertilgung). [Comparative pharmacological and toxicological evaluation of scilliroside, alpha-naphthylthiourea and cumarin preparations (an experimental contribution to rat extermination).] Zeitschrift fuer Angewandte Zoologie 44(4):419-446.

005002100 Williams, J.M. (1973) Rat damage assessment and control in cocoa. Fiji Agricultural Journal 35(1):15-25.

005001909 Williams, J.M. (1975) Rat damage to coconuts in Fiji. Part II--efficiency and economics of damage reduction methods. Pans 21(1):19-26.

005001934 Williams, R.L.; Schary, W.L.; Blaschke, T.F.; Meffin, P.J.; Melmon, K.L.; Rowland, M. (1976) Influence of acute viral hepatitis on disposition and pharmacologic effect of warfarin. Clinical Pharmacology and Theapeutics 20(1):90-97.

005001933 Williamson, R.C.N.; Lyndon, P.J.; Lai, T. (1978) Inability of anticoagulants to prevent pulmonary metastases in murine breast cancer. British Journal of Cancer 38(1):176.

005002102 Wilting, J.; Van der Houwen, O.A.G.J.; Perrin, J.H.; Braams, R. (1975) Some investigations of the binding of warfarin and fenoprofen to human serum albumin. Pharmaceutisch Weekblad 110(50):1264-1267.

005001907 Wingard, L.B., Jr.; Levy, G. (1978) Drug interactions with warfarin enantiomers--a different perspective [letter] British Journal of Clinical Pharmacology 6(5):434-436.

005004757 Wingfield, W., Jr.; Hurwitz, G.A.; Halushka, P.V.; Israili, Z.H.; Dayton, P.G.; Jollow, D.J. (1977) Dioctyl sodium sulfosuccinate (DSS) antagonizes the hypoprothrombinemic effect of sodium warfarin (W). Clinical Research 25(1):11.

000002437 Wisconsin Alumni Research Foundation (19??) Physico-Chemical Specifications for Warfarin. Includes undated methods. (Unpublished study received Nov 24, 1975 under 655-543; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-Q)

000002433 Wisconsin Alumni Research Foundation (19??) Warfarin Rodenticides. (Unpublished study received Nov 24, 1975 under 655-543; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-J)

005002702 Wisconsin Alumni Research Foundation (1951) Rat and Mouse Control Step by Step; Demonstration Manual. Madison, Wis.: Wisconsin Alumni Research Foundation.

000002337 Wisconsin Alumni Research Foundation (1954) Field Studies on the Acceptability of 0.025% Mouse Prufe versus 0.050% Mouse Prufe. (Unpublished study received Jul 1, 1954 under 3282-6; submitted by d-Con Co., Inc., New York, N.Y.; CDL:004287-A)

000002402 Wisconsin Alumni Research Foundation (1962) Prolin Rodenticides. Madison, Wis.: Wisconsin Alumni Research Foundation. (Also In unpublished submission received on unknown date under unknown admin. no.; submitted by Wisconsin Alumni Research Foundation, Madison, Wis.; CDL:104811-A)

000002846 Wisconsin Alumni Research Foundation (1962) The Anti-K Factor in Anticoagulant Baits. (Unpublished study received Jul 24, 1962 under 2521-EX-4; CDL:126814-A)

000002300 Wisconsin Alumni Research Foundation (1963) Articles and Clippings: [Prolin]. (Unpublished study received Feb 18, 1963 under unknown admin. no.; CDL:104814-A)

000002301 Wisconsin Alumni Research Foundation (1963) County Agent Letters: [Testimonial for Warfarin]. (Unpublished study received Feb 18, 1963 under unknown admin. no.; CDL:104814-B)

000002286 Wisconsin Alumni Research Foundation (1967) WARF physico-chemical specifications for technical Warfarin: Part I. Pages 1-3, In Warfarin Physico Chemical Specifications and Analytical Procedures. Madison: Wisconsin Alumni Research Foundation. (Also In unpublished submission received Feb 23, 1977 under 8590-475; submitted by Agway, Inc., Syracuse, N.Y.; CDL:228616-B)

000002438 Wisconsin Alumni Research Foundation (1967) Warfarin: Physico-Chemical Specifications and Analytical Procedures. Madison, Wis.: WARF. (Also In unpublished submission received Nov 24, 1975 under 655-543; submitted by Prentiss Drug & Chemical Co., Inc., New York, N.Y.; CDL:231461-R)

000002298 Wisconsin Alumni Research Foundation (1970?) Determination of Warfarin in Technical Coated Warfarin. (Unpublished study received Mar 2, 1973 under 2521-10; CDL:006685-B)

000002448 Wisconsin Alumni Research Foundation (1973) [Palatability Studies: Warfarin]. (Unpublished study including letter dated Mar 2, 1973 from A. Romig to Herbert S. Harrison, received Mar 6, 1973 under 523-73; submitted by Hopkins, Madison, Wis.; CDL:221947-A; 221946)

000002299 Wisconsin Alumni Research Foundation (1973) Summary of Acceptability Tests: Coated Warfarin. (Unpublished study received Mar 2, 1973 under 2521-10; CDL:006685-C)

000003281 Wisconsin Alumni Research Foundation (1973) The Coating Process. (Unpublished study received Mar 2, 1973 under 2521-10; CDL:006685-A)

000002292 Wisconsin Alumni Research Foundation (1973) Warfcoat 1/1: Technical Bulletin. (Unpublished study received Nov 13, 1973 under 2521-10; CDL:010075-A)

000004157 Wo, C. (1977) Mouse Anticoagulant Dry Bait Test: Report No. T-252. (Unpublished study including analysis report no. T-541 and letter dated Feb 10, 1978 from C. Wo to Mourand S. Nersesian, received Feb 26, 1979 under 8848-2; prepared by Products Safety Labs, submitted by Safeguard Chemical Corp., Bronx, N.Y.; CDL:237456-A)

005005302 Wolff, J.M.; Barker, N.W.; Gifford, R.W., Jr.; Mann, F.D. (1953) Experience with a new intravenous coumarin anticoagulant (warfarin, sodium derivative). Proceedings of the Staff Meetings of the Mayo Clinic 28(18):489-497.

005001908 Wong, K.P.; Gillett, P.G. (1977) Recurrent hemorrhage from corpus luteum during anticoagulant therapy. Canadian Medical Association Journal 116(4):388,390.

005003739 Wong, L.T.; Solomonraj, G.; Thomas, B.H. (1976) Analysis of warfarin in plasma by high pressure liquid chromatography. Pages 172, In Proceedings of the Canadian Federation Biol. Soc., Vol. 19. (Abstract no. 687)

005002204 Wong, L.T.; Solomonraj, G.; Thomas, B.H. (1977) Effect of salicylate on fate of [C14]warfarin in the guinea pig. Toxicology and Applied Pharmacology 41(1):167.

005004758 Wong, L.T.; Solomonraj, G.; Thomas, B.H. (1978) Fate of [14C]warfarin in guinea-pigs: effect of a concomitant single dose of salicylate. Journal of Pharmacy and Pharmacology 30(4):240-243.

005002104 Wood, D.A.; Phillipson, J. (1977) The utilisation of poison hoppers designed for grey squirrel (Sciurus carolinensis Gmelin) control. Biological Conservation 11(2):119-127.

005005299 Wood, S., Jr. (1971) Mechanisms of establishment of tumor metastases. Pages 281-308, In Pathobiology Annual. Vol. 1. New York: Appleton-Century-Crofts.

005002025 Woods, J.W.; Penick, G.D. (1964) Warfarin and diet-induced lipidosis in rats. Archivis of Pathology 78(3):234-237,239-244.

005001006 World Health Organization. Expert Committee on Insecticides (1971) Chemistry and Specifications of Pesticides: Nineteenth Report of the WHO Expert Committee on Insecticides. Geneva, Switzerland: World Health Organization. (WHO technical report series no. 475)

005000325 World Health Organization, Expert Committee on Insecticides (1973) Specifications for Pesticides Used In Public Health. 4th ed. Geneva, Switzerland: WHO.

005002380 Wosilait, W.; Luecke, R. (1978) Anticoagulant drug interactions: a computer analysis. Pharmacologist 20(3):257.

005002101 Wosilait, W.D. (1961) The effect of anticoagulants on the respiration of rat liver slices. Journal of Pharmacology and Experimental Therapeutics 132(2):212-217.

005005423 Wosilait, W.D. (1973) The relationship between the dose of warfarin, free drug in plasma, and its elimination in the bile of rats. Research Communications in Chemical Pathology and Pharmacology 6(3):943-950.

005002200 Wosilait, W.D. (1977) The effect of BSP and rifamycin on the excretion of warfarin in the bile of the rat. General Pharmacology 8(5/6):349-353.

005002203 Wosilait, W.D.; Eisenbrandt, L.L. (1972) The effect of oxyphenbutazone on the excretion of C14-warfarin in the bile of rat. Research Communications in Chemical Pathology and Pharmacology 4(2):413-420.

005002103 Wosilait, W.D.; Eisenbrandt, L.L. (1973) The effect of novobiocin and tolbutamide on the excretion of warfarin in the bile of rats. Research Communications in Chemical Pathology and Pharmacology 5(1):109-116.

005002202 Wosilait, W.D.; Garten, S. (1972) Computation of unbound anticoagulant values in plasma. Research Communications in Chemical Pathology and Pharmacology 3(2):285-291.

000002291 Xterma Pest Control (1969) [Toxicity: Warfarin]. (Unpublished study received Sep 8, 1969 under 9392-3; CDL:228576-A)

005006263 Yacobi, A. (1975) Pharmacokinetics of warfarin. Dissertation Abstracts International B 36(7):3402.

005002515 Yacobi, A.; Lai, C.M.; Levy, G. (1975) Comparative pharmacokinetics of coumarin anticoagulants XV: relationship between pharmacokinetics of dicumarol and warfarin in rats. Journal of Pharmaceutical Sciences 64(12):1995-1998.

005018051 Yacobi, A.; Lai, C.M.; Levy, G. (1980) Comparative pharmacokinetics of coumarin anticoagulants XLV: pharmacokinetic and pharmacodynamic studies of acute interaction between warfarin and phenylbutazone in rats. Journal of Pharmaceutical Sciences 69(1):14-20.

005002014 Yacobi, A.; Levy, G. (1974) Pharmacokinetics of the warfarin enantiomers in rats. Journal of Pharmacokinetics and Biopharmaceutics 2(3):239-255.

005002015 Yacobi, A.; Levy, G. (1975) Comparative pharmacokinetics of coumarin anticoagulants XIV: relationship between protein binding, distribution, and elimination kinetics of warfarin in rats. Journal of Pharmaceutical Sciences 64(10):1660-1664.

005002517 Yacobi, A.; Levy, G. (1975) Effect of plasma protein binding on the anticoagulant action of warfarin in rats. Research Communications in Chemical Pathology and Pharmacology 12(2):405-408.

005002085 Yacobi, A.; Levy, G. (1977) Comparative pharmacokinetics of coumarin anticoagulants XXI: effect of plasma protein binding on distribution kinetics of warfarin in rats. Journal of Pharmaceutical Sciences 66(4):567-572.

005002017 Yacobi, A.; Levy, G. (1977) Comparative pharmacokinetics of coumarin anticoagulants XXIX: elimination kinetics and anticoagulant activity of (S)-(--)-warfarin in rats before and after chronic administration. Journal of Pharmaceutical Sciences 66(9):1275-1277.

005002016 Yacobi, A.; Levy, G. (1977) Comparative pharmacokinetics of coumarin anticoagulants XXVIII: predictive identification of rats with relatively steep serum warfarin concentration-anticoagulant response characteristics. Journal of Pharmaceutical Sciences 66(1):145.

005002516 Yacobi, A.; Levy, G. (1977) Intraindividual relationships between serum protein binding of drugs in normal human subjects, patients with impaired renal function, and rats. Journal of Pharmaceutical Sciences 66(9):1285-1288.

005002018 Yacobi, A.; Slattery, J.T.; Levy, G. (1977) Comparative pharmacokinetics of coumarin anticoagulants XXIV: effect of treatment with phenobarbital on serum protein binding of warfarin and dicumarol in rats. Journal of Pharmaceutical Sciences 66(7):941-943.

005002020 Yacobi, A.; Wingard, L.B., Jr.; Levy, G. (1974) Comparative pharmacokinetics of coumarin anticoagulants X: relationship between distribution, elimination, and anticoagulant action of warfarin. Journal of Pharmaceutical Sciences 63(6):868-872.

005002019 Yakatan, G.J.; Juneau, R.J.; Schulman, S.G. (1972) Phototautomerism of warfarin cation in lowest excited singlet state via an intramolecular hydrogen bridge. Journal of Pharmaceutical Sciences 61(5):749-753.

005003283 Yamasaki, H.; Saeki, K. (1967) Inhibition of mast-cell degranulation by anti-inflammatory agents. Archives Internationales de Pharmacodynamie et de Therapie 168(1):166-179.

005011217 Yuyama, K.; Goto, J.; Umezu, M. (1953) Warfarin ni kansuru seikagaku-teki kenkyu: 1. Hishokuho ni yoru kessho-chu no warfarin teiryo ni tsuite. [Biochemical studies of warfarin: 1. A colorimetric method for the determination of warfarin in plasma.] Igaku to Seibutsugaku. [Medicine and Biology.] 29(4):147-149.

005002013 Yvars, A.M.; Eckert, B.; Kane, A.A. (1965) Small bowel obstruction following anticoagulant therapy: report of a case and review of the literature. American Journal of Gastroenterology 44(6):572-578.

005001980 Zacharski, L.R.; Rosenstein, R. (1978) Inhibition of salivary tissue factor (thromboplastin) activity by warfarin therapy. Circulation 58(4):207.

005008218 Zacharski, L.R.; Rosenstein, R. (1979) Reduction of salivary tissue factor (thromboplastin) activity by warfarin therapy. Blood 53(3):366-374.

005002233 Zager, J.; Tjandramaga, T.B.; Cucinell, S.A.; Dayton, P.G. (1973) Coumarin resistance in a Negro woman [letter]. Annals of Internal Medicine 78(5):775-776.

005002388 Zaroslinski, J.F.; Keresztes-Nagy, S.; Mais, R.F.; Oester, Y.T. (1974) Effect of temperature on the binding of salicylate by human serum albumin. Biochemical Pharmacology 23(12):1767-1776.

005002236 Zaroslinski, J.F.; Mais, B.F.; Nagy, S.K.; Oester, Y.T. (1971) Gel filtration study of warfarin displacement by salicylate. Federation Proceedings 30(2):202.

005005912 Zatsepin, V.G. (1966) K razrabotke besprimanochnogo metoda deratizatsii--metoda yadovitoi peny. [Development of a baitless method of rat extermination in the form of poisonous foam.] Trudy, Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Veterinarnoi Sanitarii. [Transactions, All-Union Scientific Research Institute of Veterinary Sanitation.] 25:357-361.

005008007 Zatsepin, V.G. (1969) Ispytaniya yadovitykh pen dlya deratizatsii. [Testing of toxic foams for rat extermination purposes.] Trudy, Vsesoyuznyi Nauchno-Issledovatel'skii Institut Veterinarnoi Sanitarii. [Transactions, All-Union Scientific Research Institute of Veterinary Sanitation.] 32:630-635.

005006274 Zatsepin, V.G.; Trakhanov, D.F.; Nikiforov, N.I. (1977) Izuchenie toksichnosti deratizatsionnykh yadov dlya pushnykh zverei. [Study on toxicity of deratization poisons to fur-bearing animals.] Trudy, Vsesoyuznyi Nauchno-Issledovatel'skii Institut Veterinarnoi Sanitarii. [Transactions, All-Union Scientific Research Institute of Veterinary Sanitation.] 57:127-132.

005007616 Zavon, M.R. (1974) Poisoning from pesticides: diagnosis and treatment. Pediatrics 54:332-336.

005004760 Zenteno-Alanis, G.H.; Corvera, J.; Mateos, J.H. (1968) Subdural hematoma of the posterior fossa as a complication of anticoagulant therapy: presentation of a case. Neurology 18(11):1133-1136.

005002279 Zer, M.; Chaimoff, C.; Dintsman, M. (1972) Anticoagulant ileus with intestinal necrosis. Israel Journal of Medical Sciences 8(2):154-157.

005008464 Zietek, M.; Fidelus, J. (1968) Oznaczanie 3(alphha-fenylo-beta-acetyloetylo)-4-hydroksykumaryny w krwi, surowicy i osoczu. [Assays of 3-(alpha-phenyl-beta-acetylethyl)-4-hydroxycoumarin in blood, serum and plasma.] Acta Poloniae Pharmaceutica XXV(1):77-80.

005002255 Zieve, P.D.; Solomon, H.M. (1969) Variation in the response of human beings to vitamin K 1 Clinical Medicine 73(1):103-110.

005002234 Zimmerman, A. (1974) Phylloquinone Epoxide Reductase: Doctoral Dissertation. St. Louis, Mo.: St. Louis University. (Available from: University Microfilms, Ann Arbor, MI, order no. 75-26,348)

005002387 Zimmermann, A.; Matschiner, J.T. (1974) Biochemical basis of hereditary resistance to warfarin in the rat. Biochemical Pharmacology 23(6):1033-1040.

005002526 Zini, R.; D'Athis, P.; Hoareau, A.; Tillement, J.P. (1976) Binding of four sulphonamides to human albumin. European Journal of Clinical Pharmacology 10(2):139-145.

005002385 Zucker, W.H.; Shinoda, B.A.; Mason, R.G. (1974) Experimental interactions of components of hemodialysis units with human blood. American Journal of Pathology 75(1):139-160.

005004761 Zwarenstein, H.; Sapeika, N.; Holmes, J. (1973) Inhibitory effect of some quinoline, phthalazine, and coumarin derivatives on glucose-6-phosphate dehydrogenase in vitro. Research Communications in Chemical Pathology and Pharmacology 6(2):701-708.

005005309 Zwarenstein, H.; Sapeika, N.; Holmes, J. (1974) Effect of quinolone, phthalazine and coumarin derivatives on the absorbance of NADPH. Research Communications in Chemical Pathology and Pharmacology 7(1):225-228.

005002525 Zweifler, A.J.; Coon, W.W.; Willis, P.W., III (1966) Bleeding during oral anticoagulant therapy. American Heart Journal 71(1):118-123.

Office of Pesticide Programs

Standard Reference Material

GS0020024 Bontoyan, W., ed. (1976) Manual of Chemical Methods for Pesticides and Devices. U.S. Environmental Protection Agency, Office of Pesticide Programs, Technical Services Division, Chemical and Biological Investigations Branch. (Available from Association of Official Analytical Chemists, Arlington, VA).

005000301 Cutting, W.C. (1967) Insecticides, repellents and rodenticides. Pages 132-140d, In Handbook of Pharmacology, 3rd Edition. New York: Appleton-Century-Crofts.

005005417 Davidson, L.M.; Peairs, R.H. (1966) Applied insect control: Chemical. Pages 72-100, In Insect Pests of Farm, Garden and Orchard. 6 th ed. New York: John Wiley.

005007048 Fairchild, E.J., ed. (1977) Agricultural Chemicals and Pesticides: A Subfile of the NIOSH Registry of Toxic Effects of Chemical Substances. Cincinnati, Ohio: National Institute for Occupational Safety and Health. (Pagination includes 46 pages numbered i-xlvl; available from: NTIS, Springfield, VA: PB-274 748).

005010941 Martin, H.; Miles, J.R.W. (1953) Guide to the Chemicals and Pesticides: A Subfile of the NIOSH Registry of Toxic Effects of Chemical Substances. Cincinnati, Ohio: National Institute for Occupational Safety and Health. (Pagination includes 46 pages numbered i-xlvi; available from: NTIS, Springfield, VA: PB-274 748).

Meister Pub. Co. 1980. Farm Chemical Handbook. Willoughby, OH.

The Federal Insecticide, Fungicide, and Rodenticide Act, as amended in 1978, 7th U.S. Code, Chapter 135, 61 Statute 163.78 Statute 190.

Pesticide Process Encyclopedia, 1977 Noyes Data Corp., Park Ridge, New Jersey.

Pesticide Index: Basic information on the chemicals used as active components of pesticides.; Martin, H., and Worthington, C.R., eds., 1977. 5th ed., British Corp. Protection Council, Worcestershire, England.

U.S. Environmental Protection Agency (1978a); Proposed Guidelines for Registering Pesticides in the United States. Federal Register, 43 (132) 29696.

U.S. Environmental Protection Agency (1978b); Proposed Guidelines for Registering Pesticides in the United States; Hazard Evaluation: Humans and Domestic Animals. Federal Register, 43(163) 37336.

U.S. Environmental Protection Agency (1980); Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act, Title 40, Chapter 1, Part 162.

*U.S. GOVERNMENT PRINTING OFFICE: 1981 341-082/257 1-3